

**The Attappady Hills Area Development Society-
Centre for Comprehensive Participatory Resource
Management, India**

**Preparatory Survey for
Wayanad
Comprehensive Environment
Conservation and Community
Development Project
in India**

Final Report

Volume II: Main Report

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Unit

1 Crore = 10,000,000

1 Lakh=100,000

1 acre =0.41 ha

1 cent=0.01 acre



Administrative Boundary Map of India

Administrative Boundary Map of Kerala Source : Drawn based on <http://www.mapsofindia.com/maps/kerala/kerala.htm> (2014.1.15)

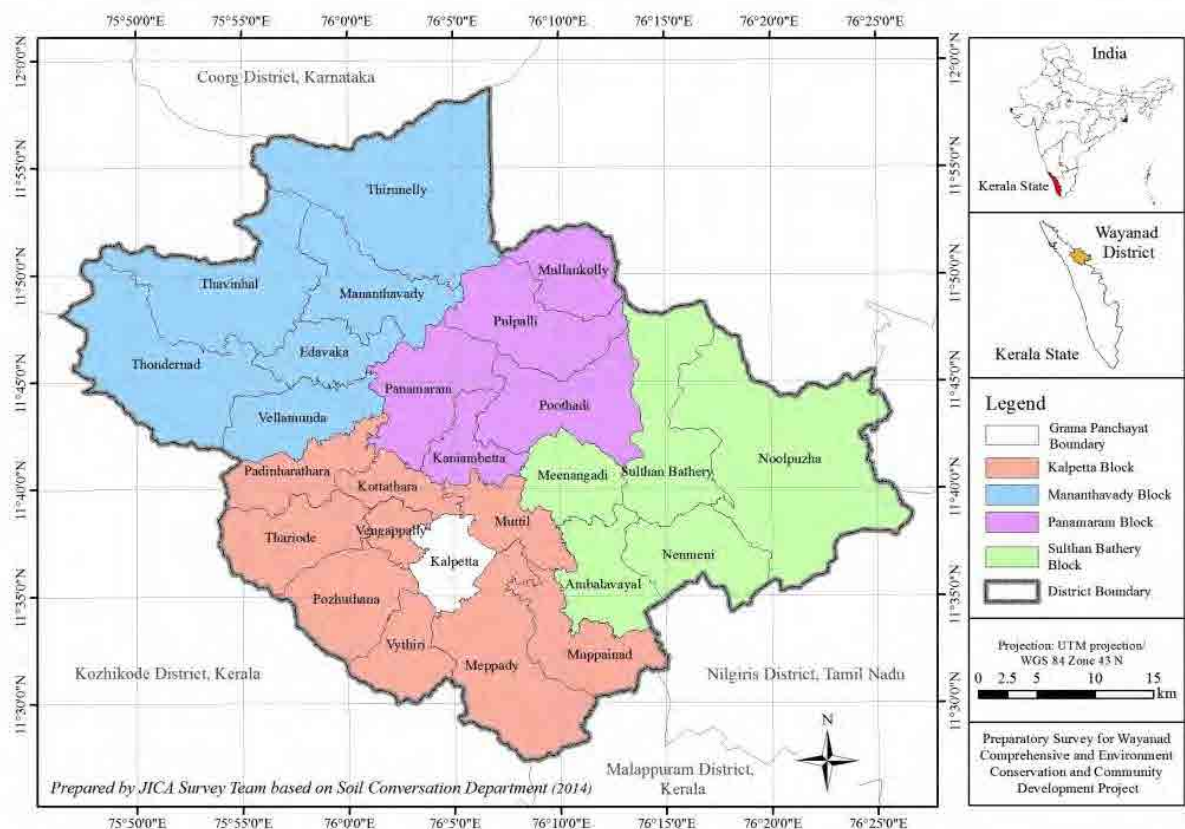


Grama Panchayat Boundary Map of Wayanad

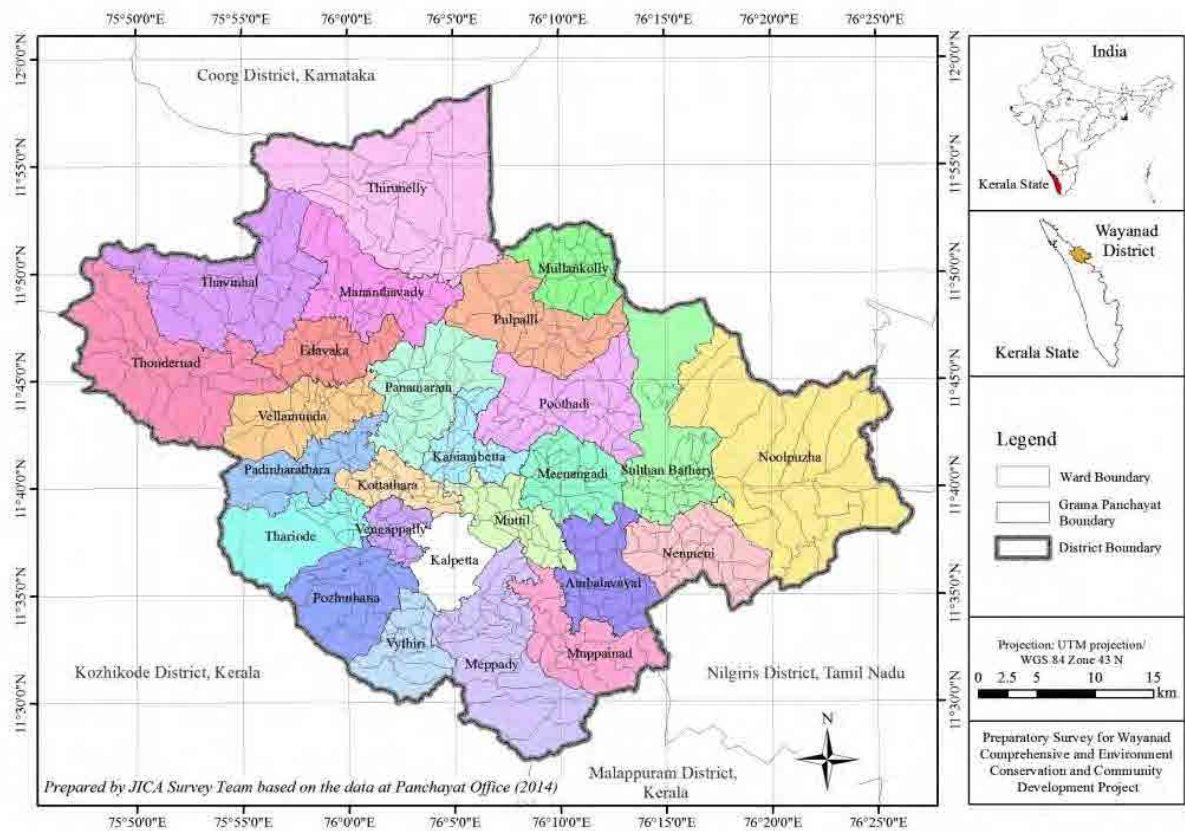
Source: JICA Survey Team (2014)

Structure of the Report

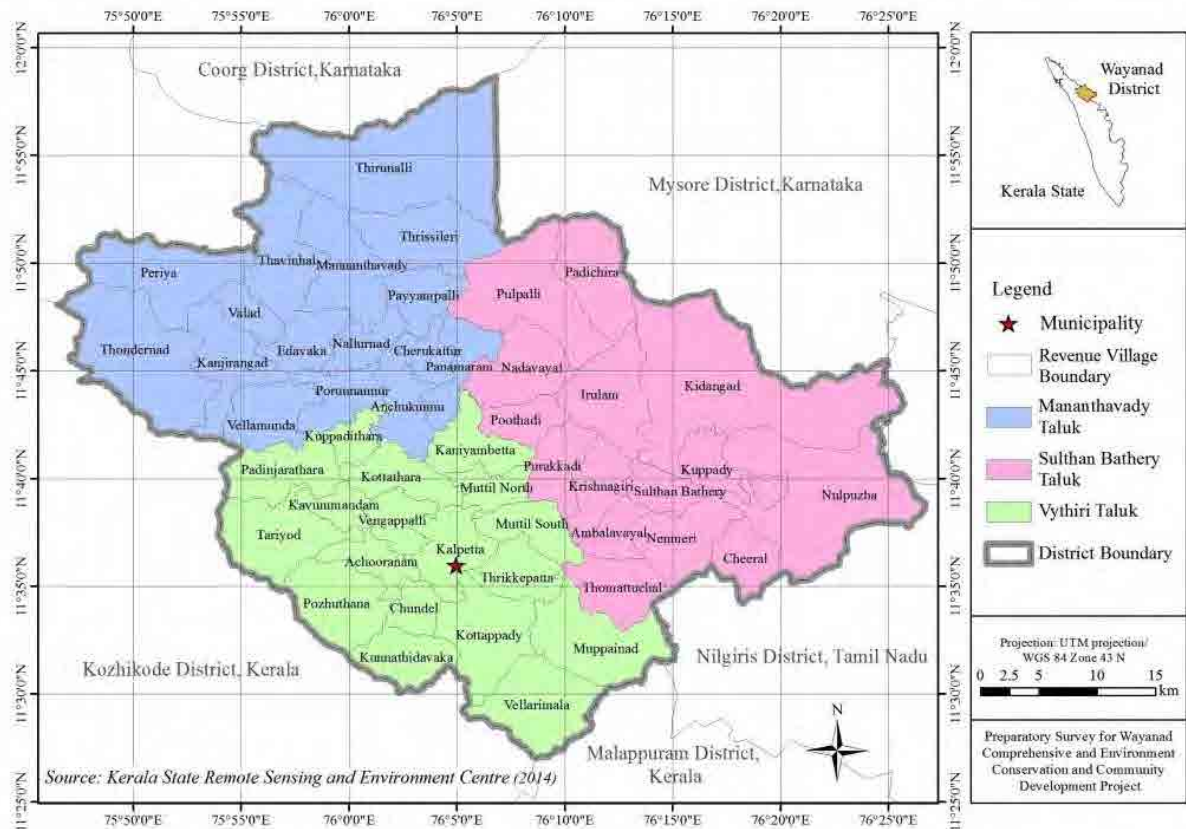
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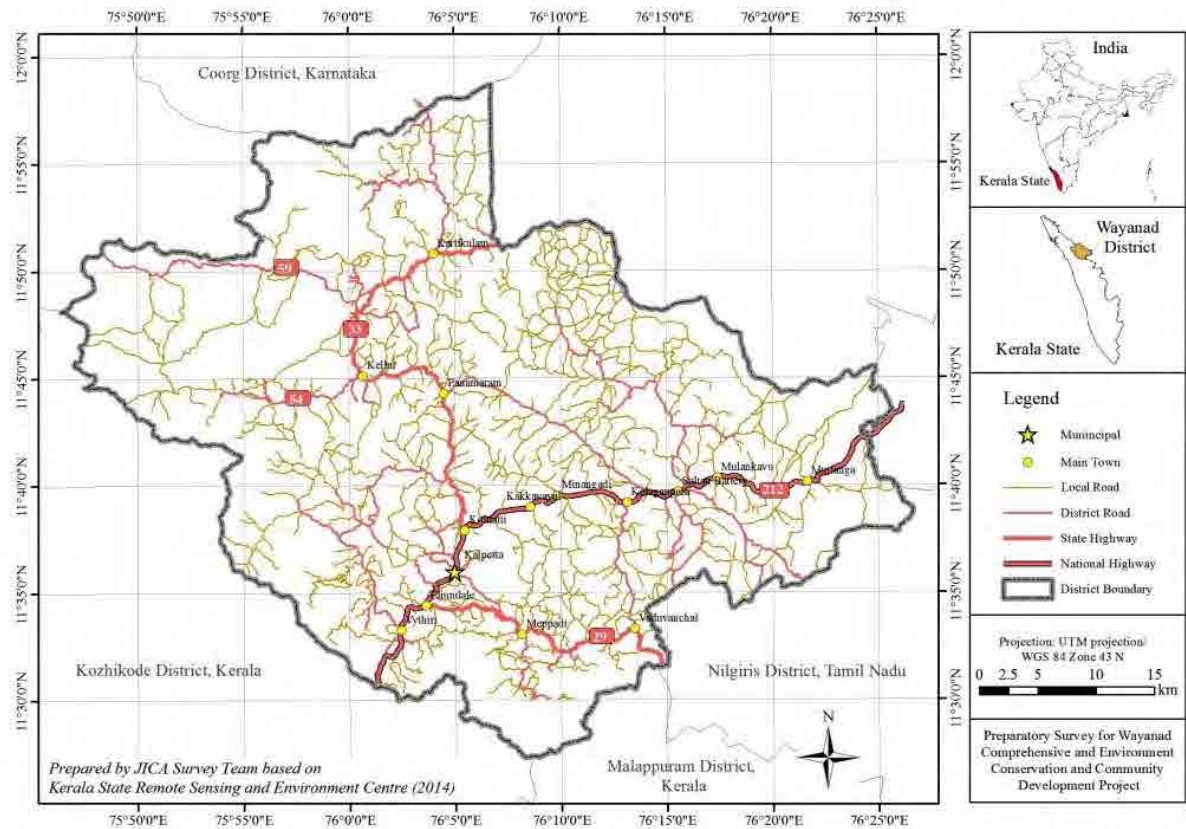
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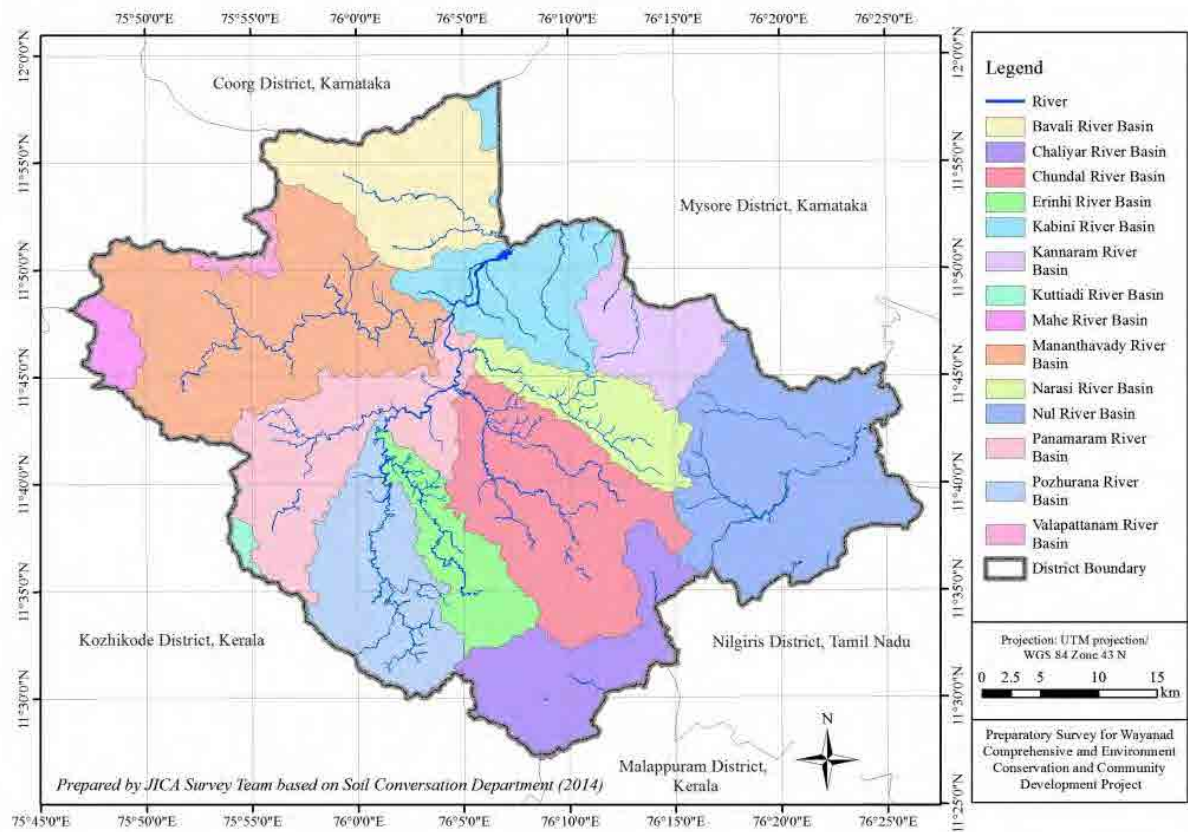
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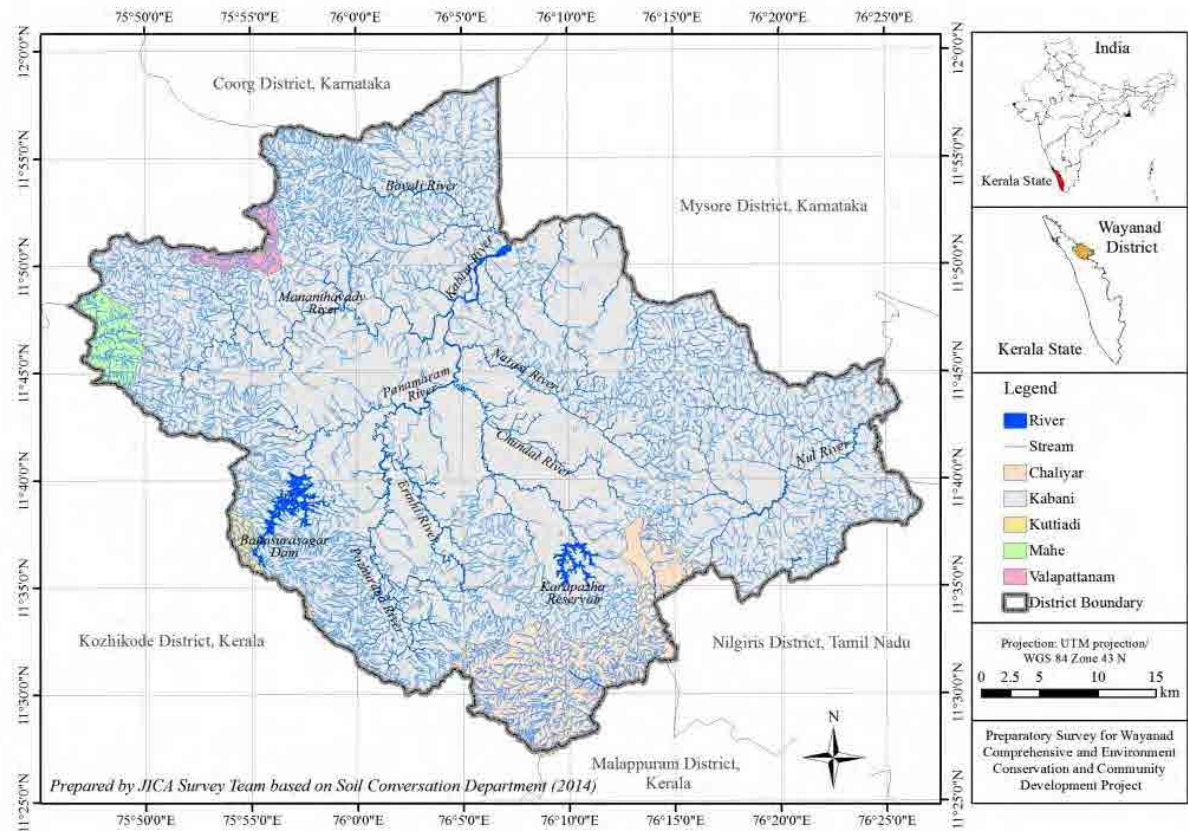
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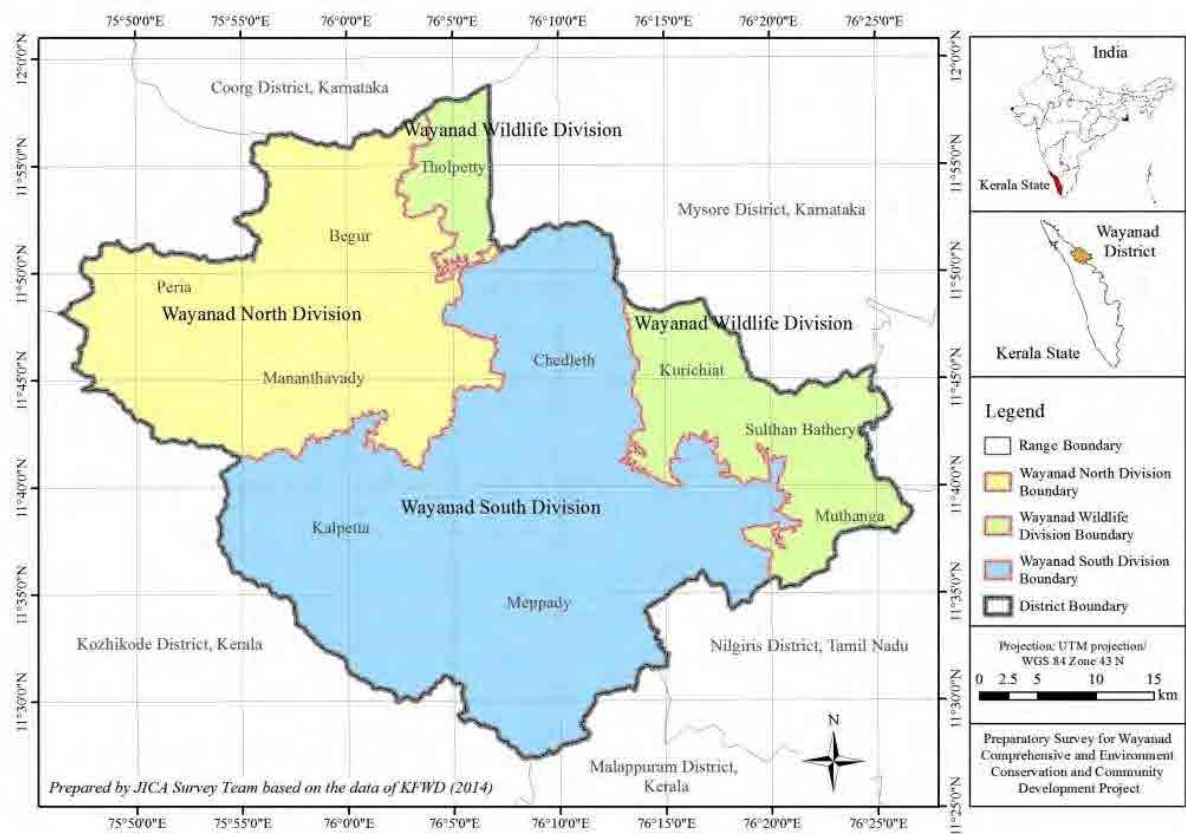
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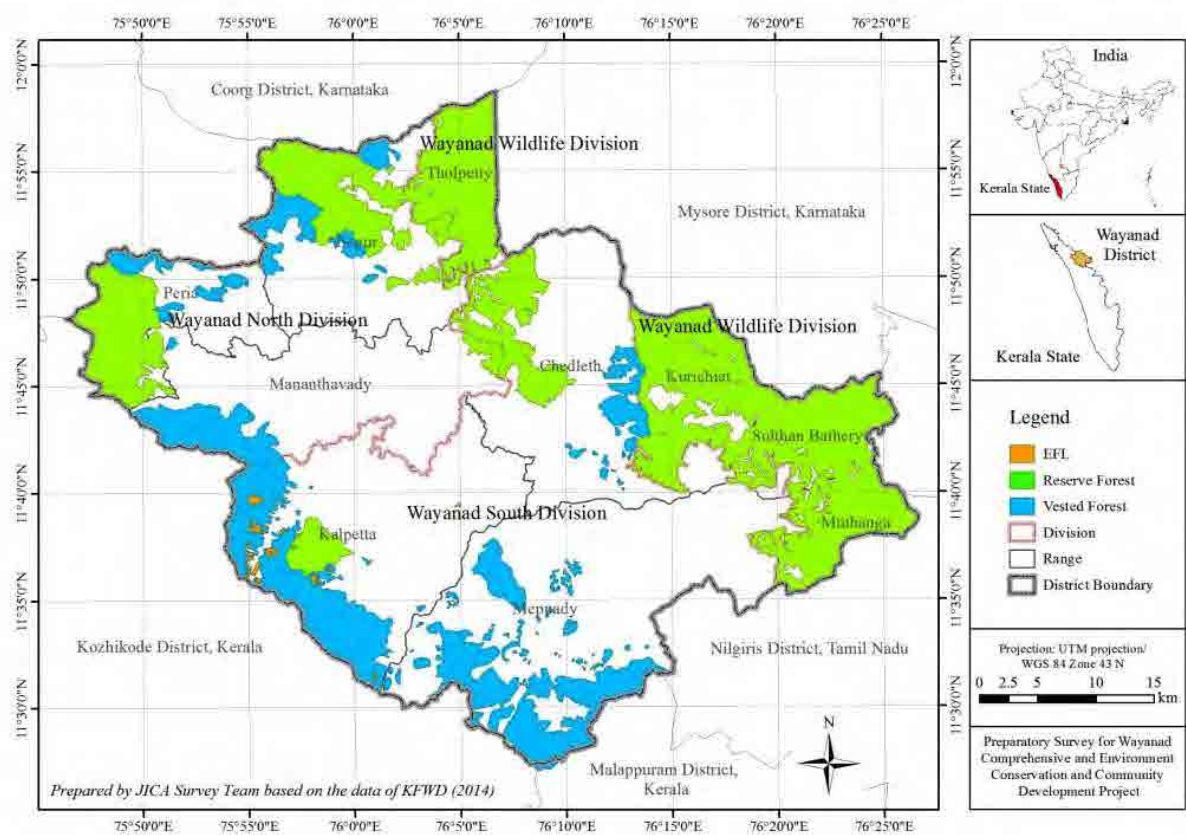
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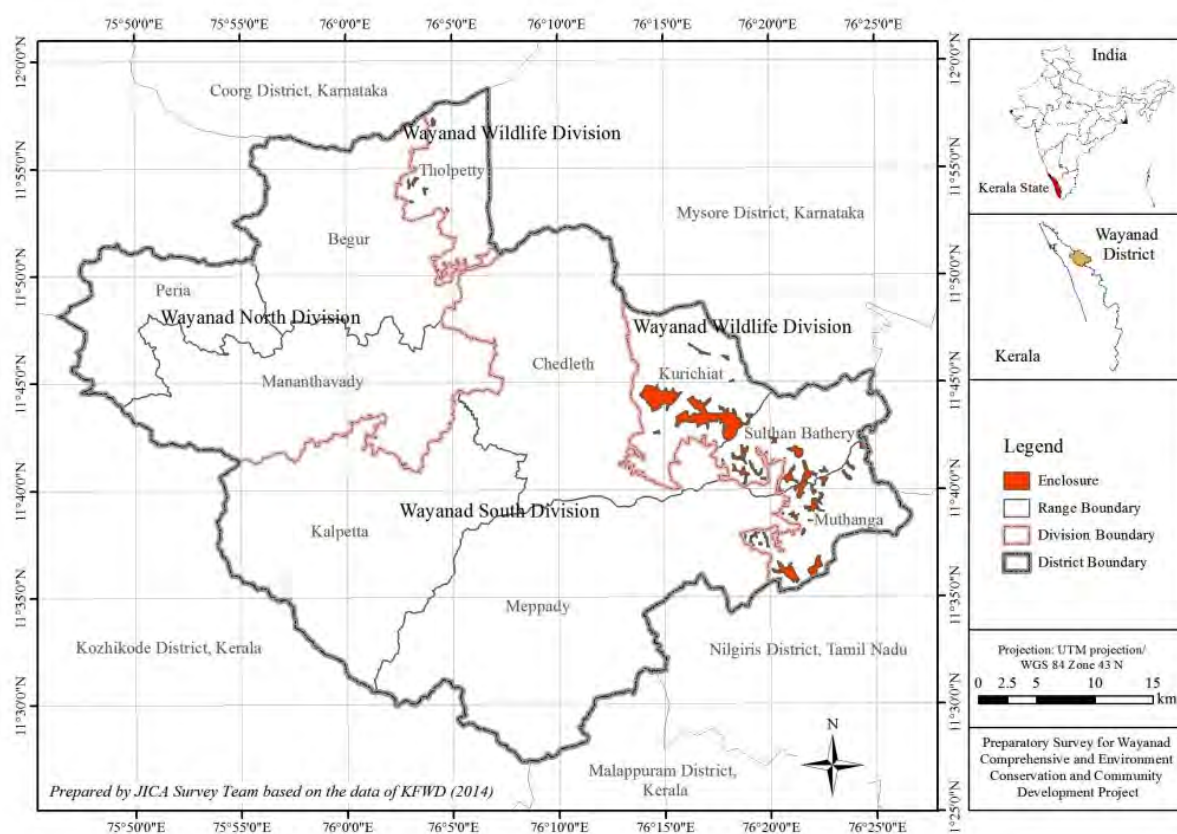
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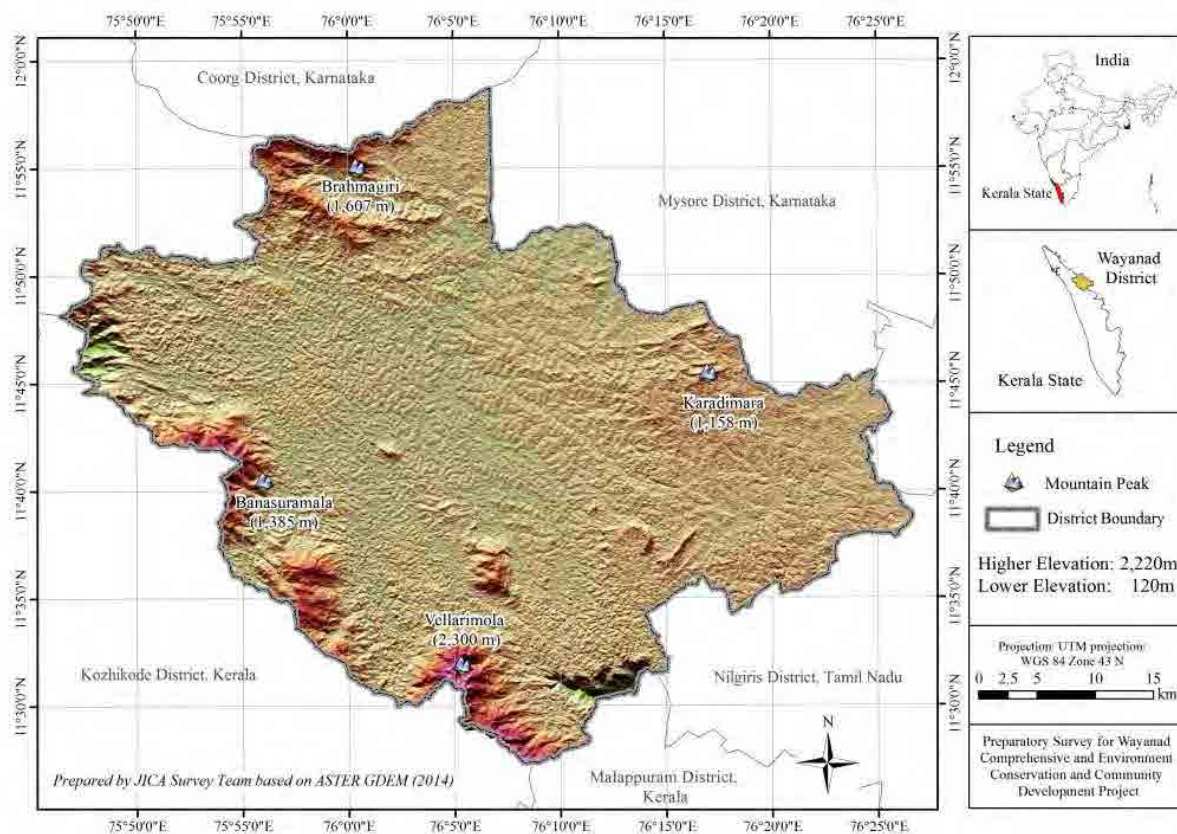
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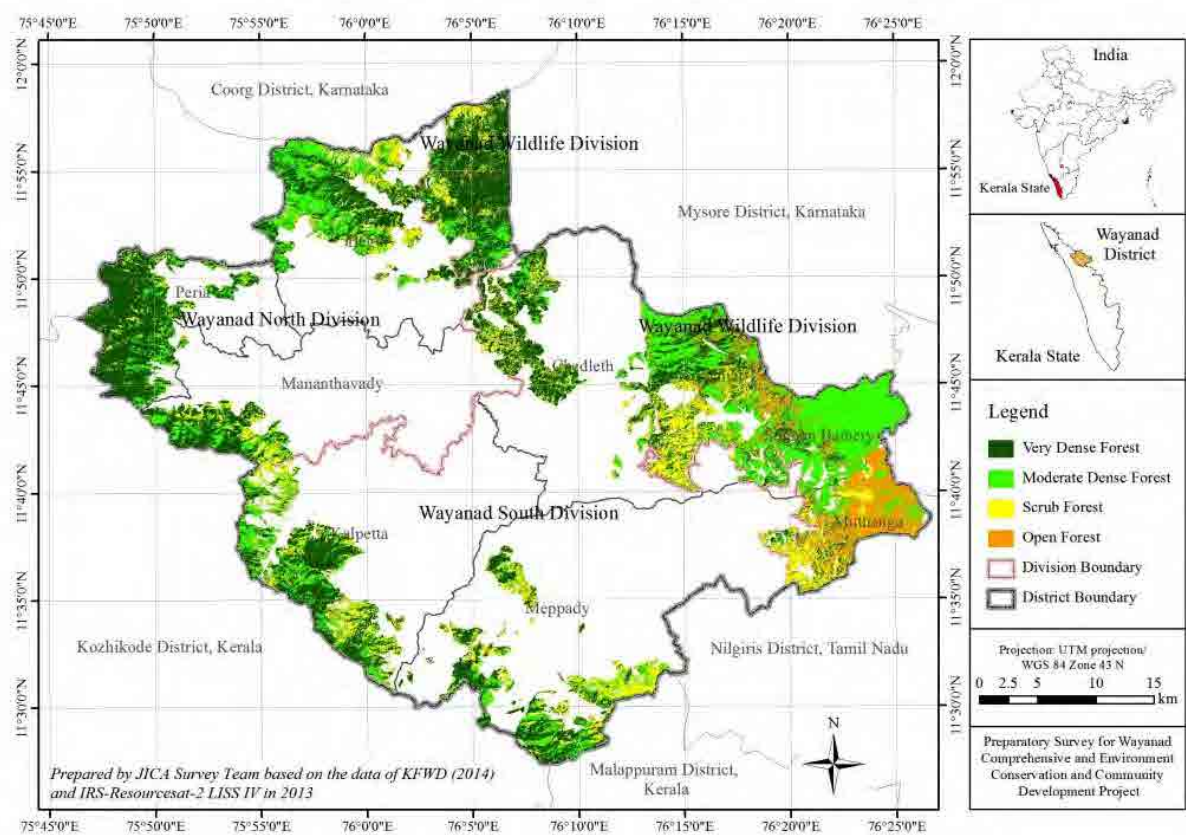
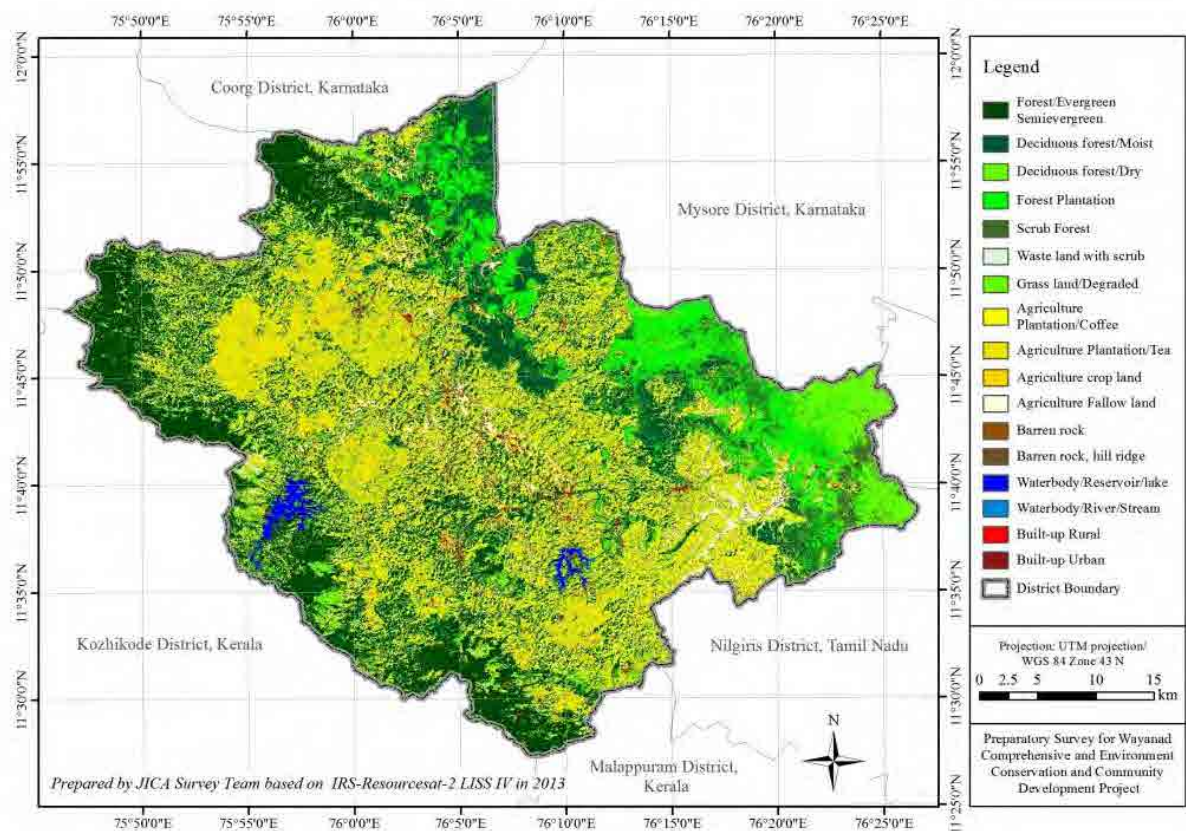
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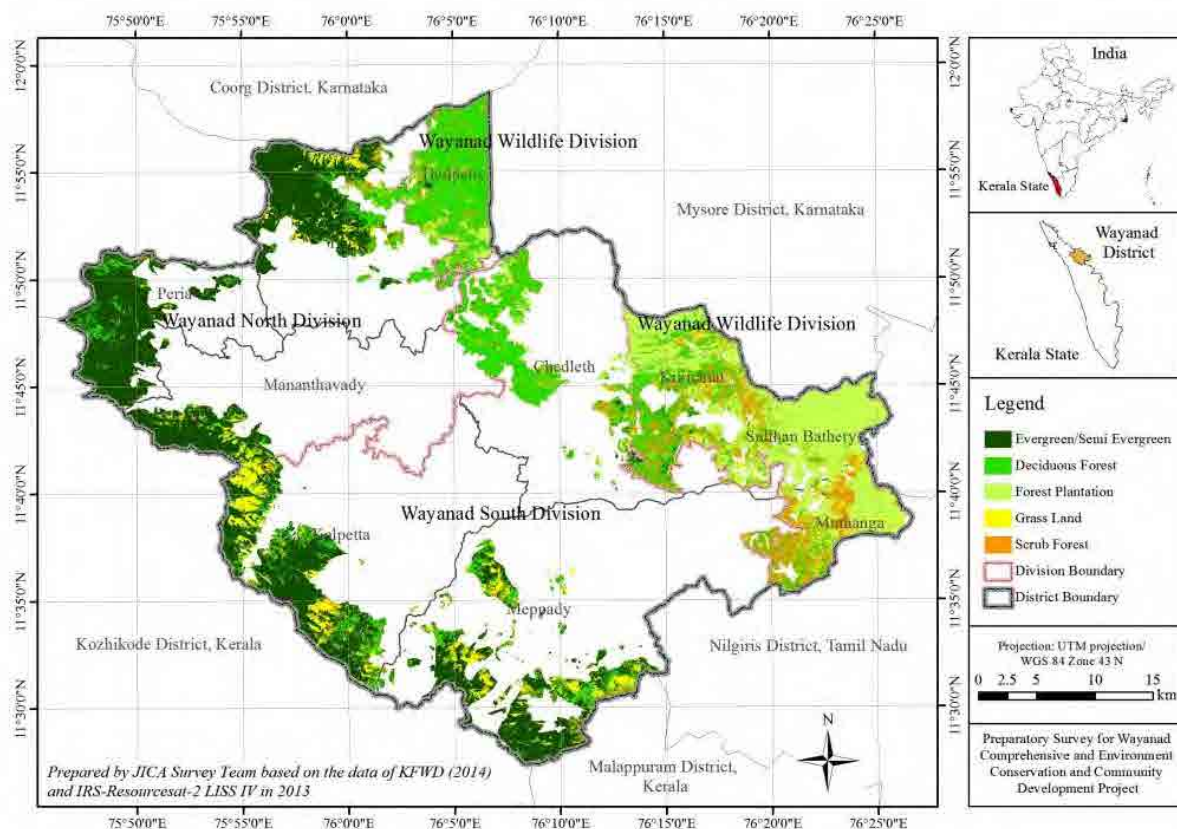


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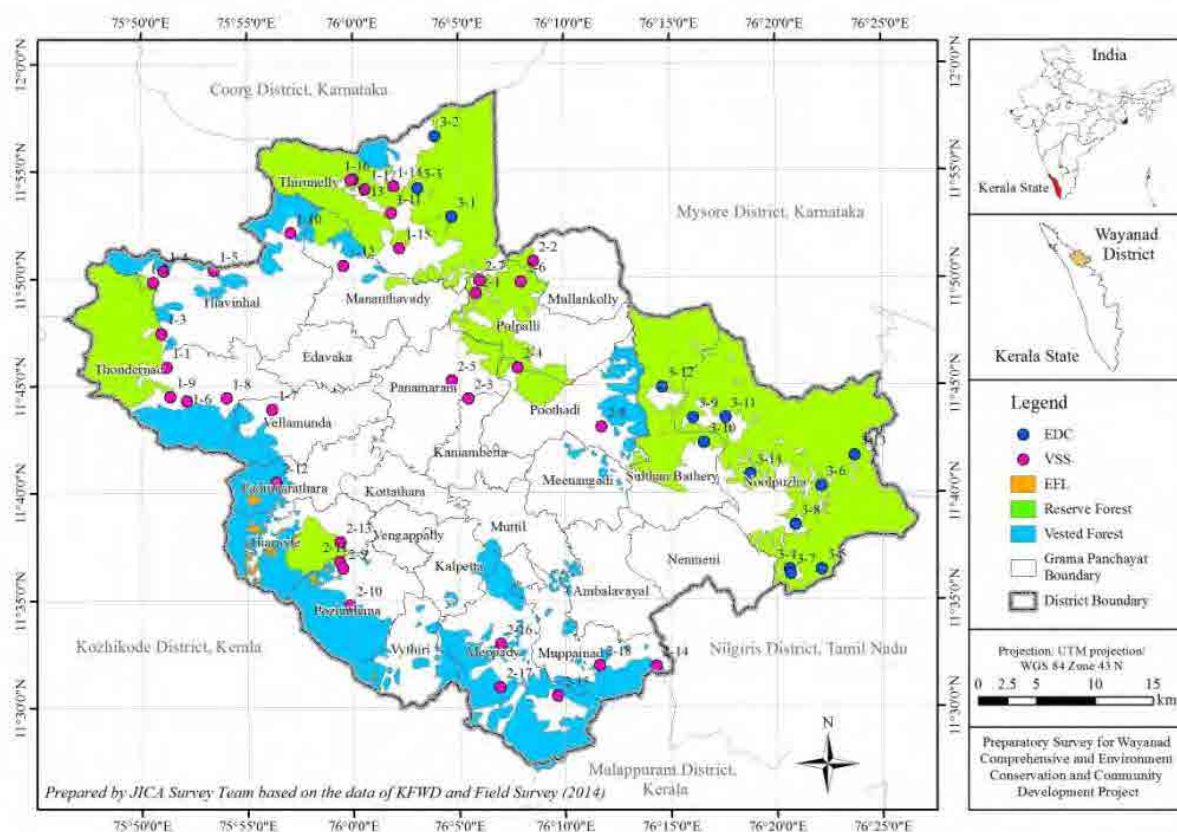


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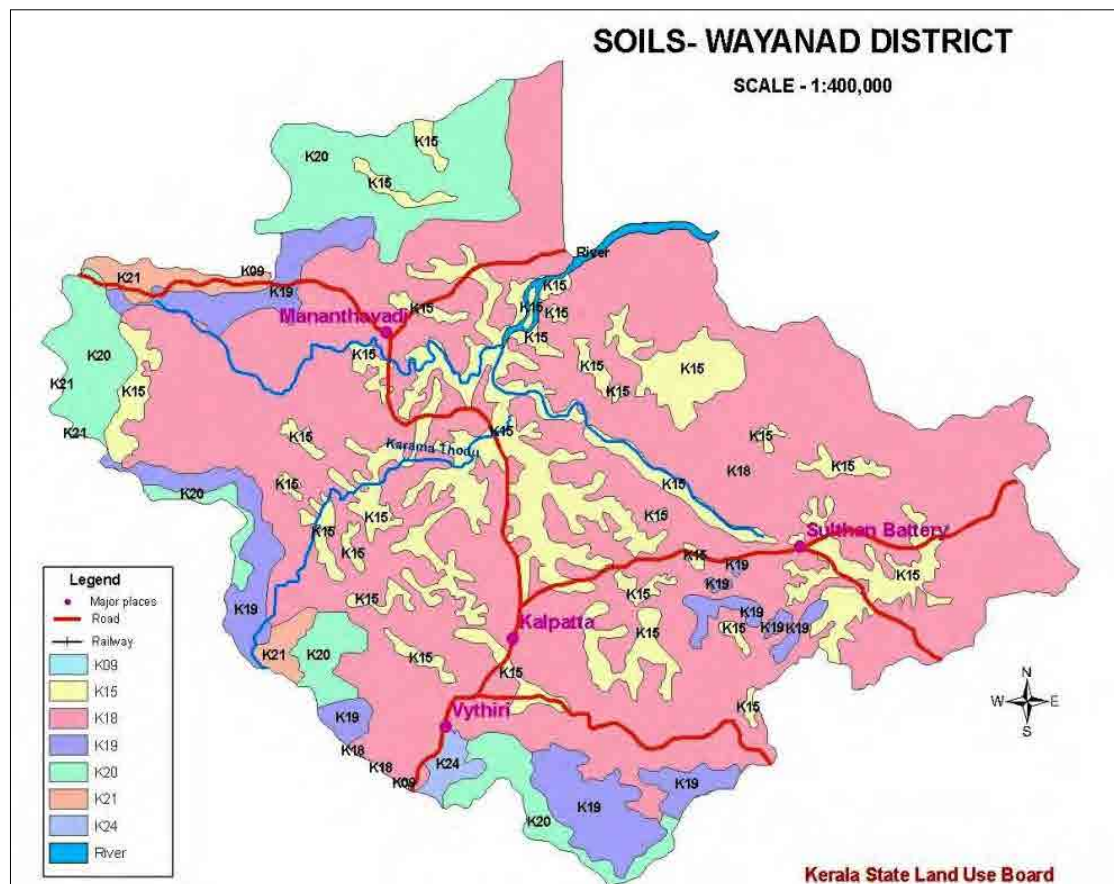




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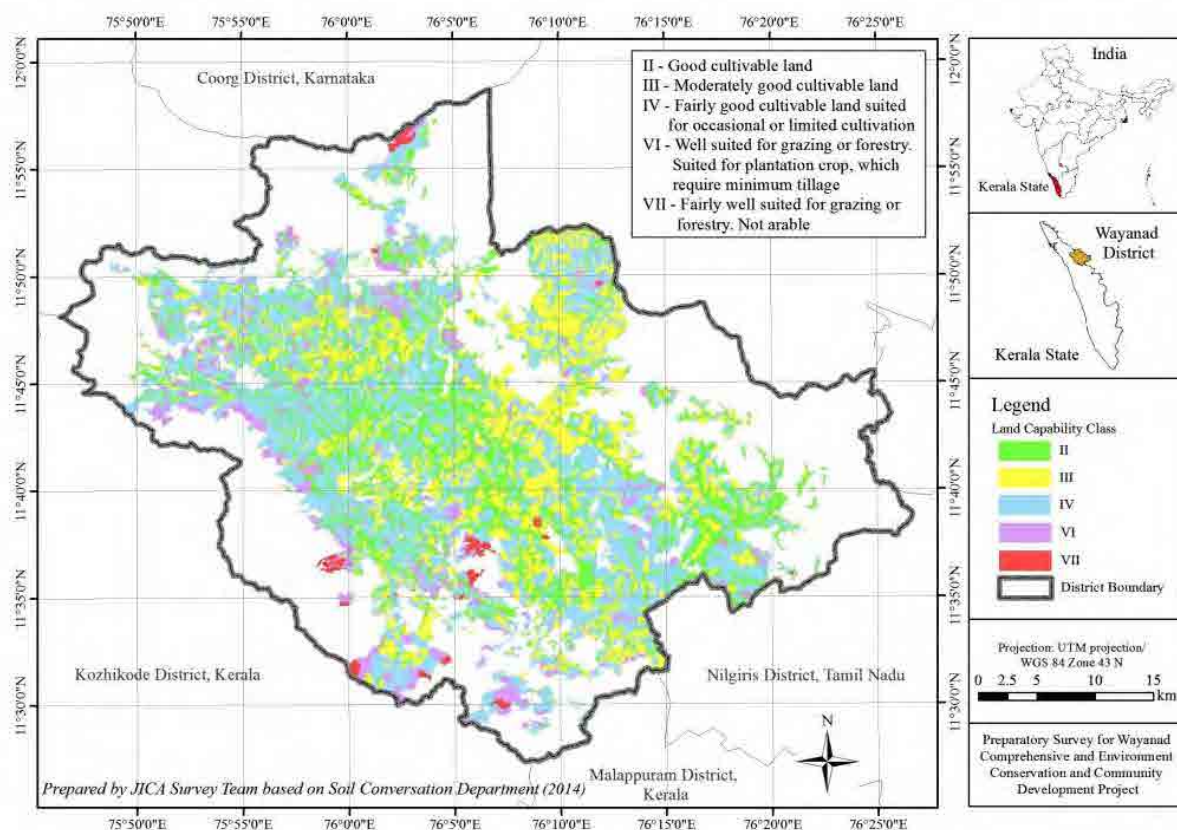


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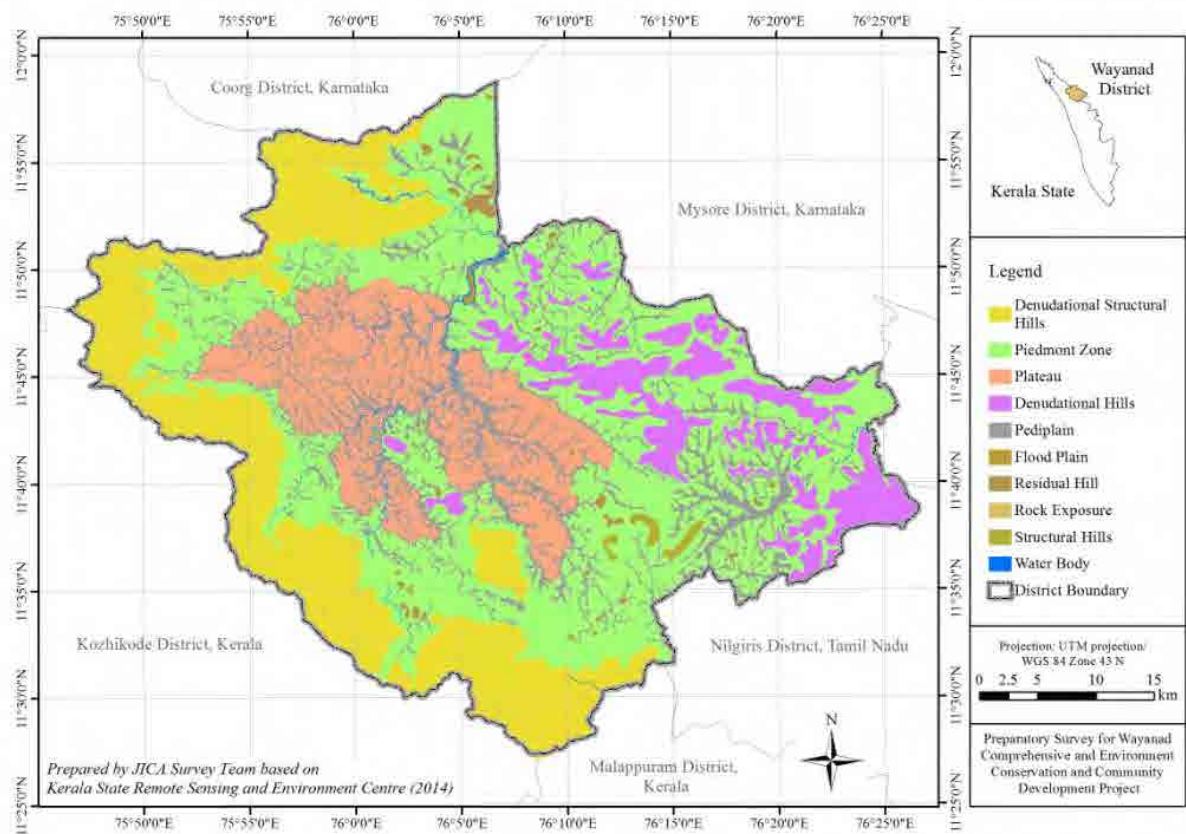


Source: Kerala State Land Use Board (2012). Natural Resources Data Bank Wayanad.p.59

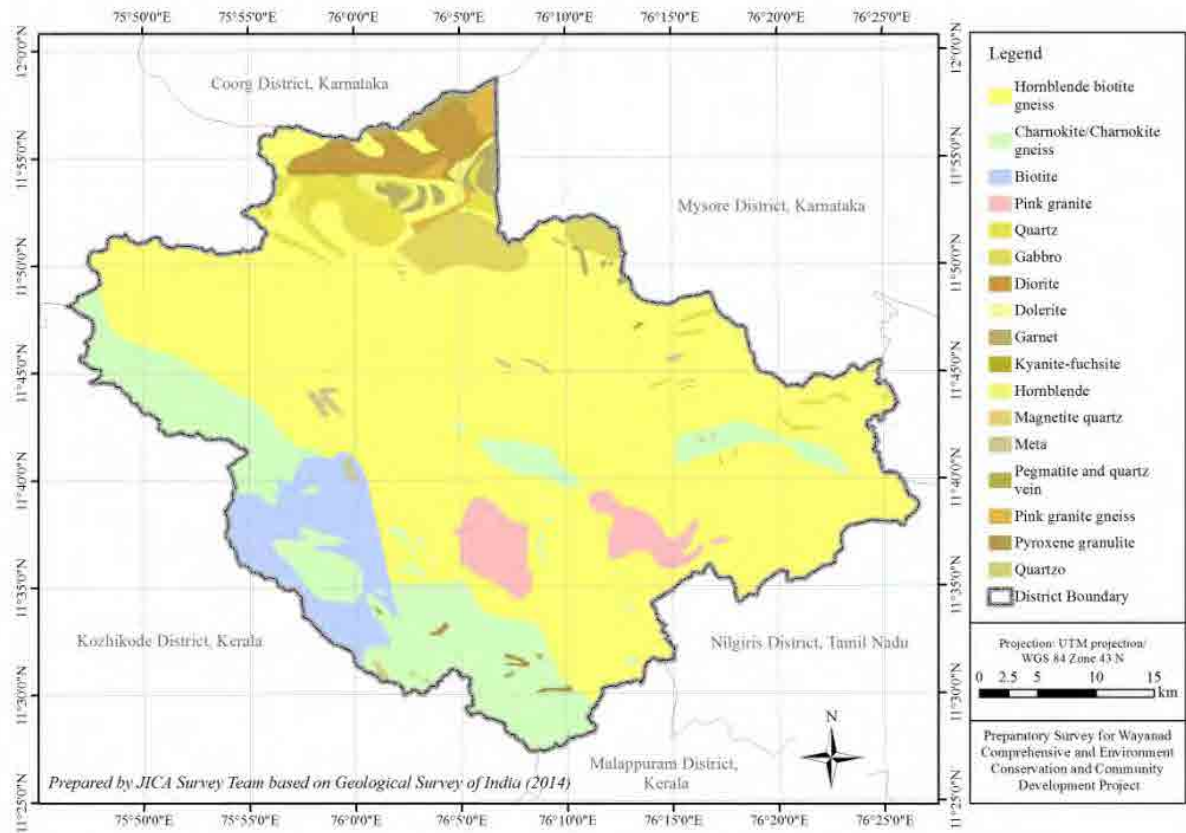
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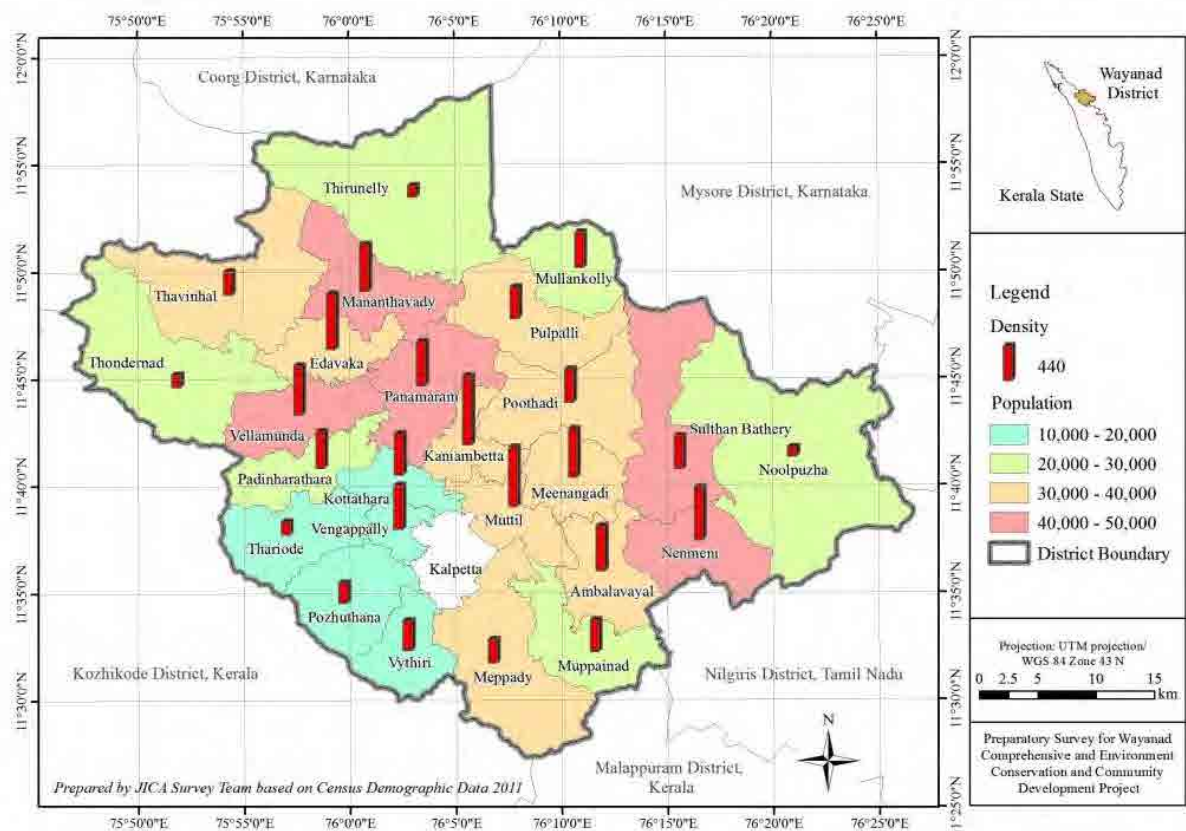
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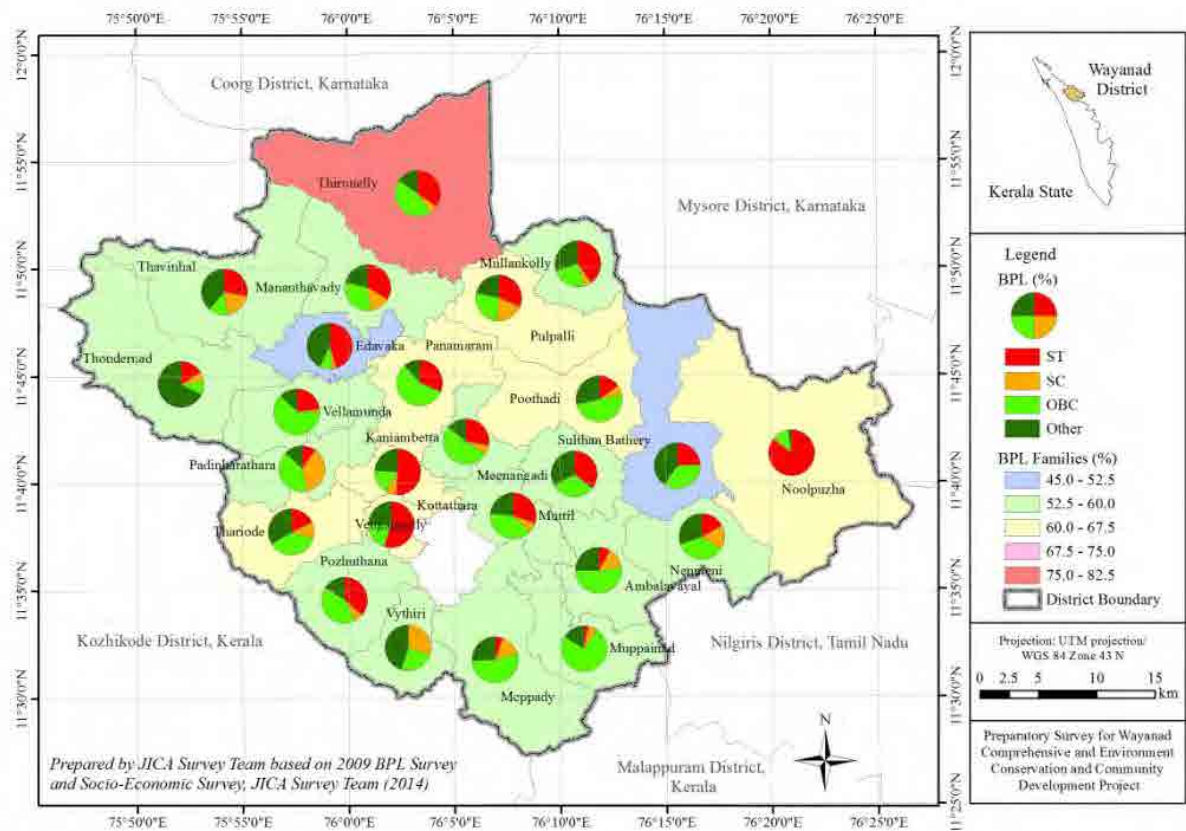
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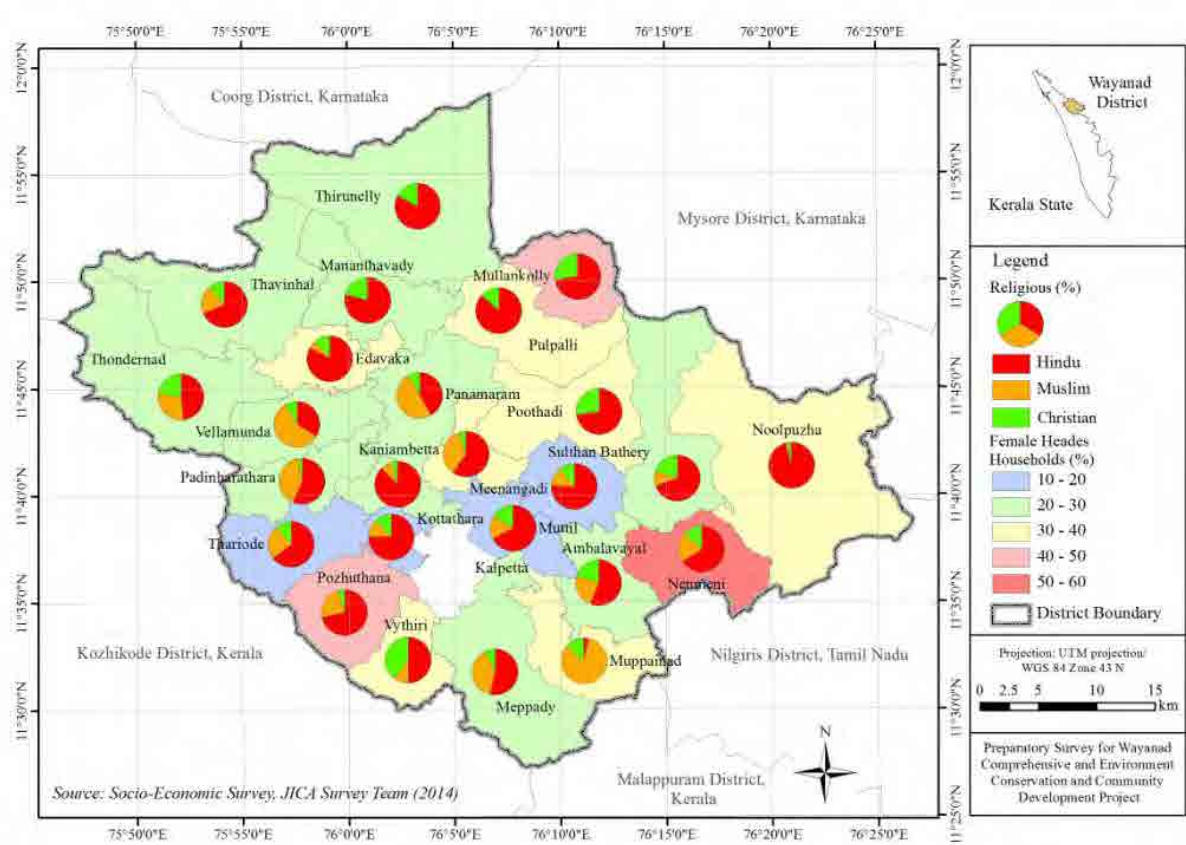
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Final Report: Volume-II
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The Preparatory Survey for Wayanad Comprehensive Environment Conservation and
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List of Acronyms

Acronym	Description
ACF	Assistant Conservator of Forest
AD	Assistant Director
ADS	Area Development Society
AERCC	Asian Elephant Research and Conservation Center
AEDC	Advasi (Tribal) Eco Development Committee
AFVO	Assistant Forest Veterinary Officer
AH	Animal Husbandry
AHADS	Attappady Hills Area Development Society
AHADS-CCPRM	Attappady Hills Area Development Society -Centre for Comprehensive Participatory Resource Management
AHD	Animal Husbandry Department
AI	Artificial Insemination
AMUL	Anand Milk Union Ltd
ANR	Assisted Natural Regeneration
APCOS	Anand Pattern Cooperative Societies
APL	Above Poverty Line
ATMA	Agriculture Technology Management Agency
AVSS	Advasi Van Samrakshana Samithies (Tribal Village Forest Committee)
AWCECOP	Attappady Wasteland Comprehensive Environmental Conservation Project
AWW	Assistant Wildlife Warden
BAAPCO	Bana Agro and Allied Producer Company
BDS	Brahmagiri Development Society (NGO)
BFO	Bear Forest Officer
BMC	Bulk Milk Cooler
BPL	Below Poverty Line
BRGF	Backward Region Grant Fund
CCF	Chief Conservator of Forest
CDAP	Comprehensive District Agriculture Plan
CDS	Community Development Society
CF	Conservator of Forest
CFC	Common Facility Centre
CHC	Community Health Centre
CPCB	Central Pollution Control Board
CSS	Centrally Sponsored Schemes
CSW	Community Social Worker
CWRDM	Centre for Water Resources Development and Management
CWW	Chief Wildlife Warden
DARE	Department of Agriculture Research and Education
DCS	Dairy Cooperative Societies

Acronym	Description
DDD	Dairy Development Department
DEEF	Development through Empowerment Entrepreneurship and Participation
Df/R	Draft Final Report
DFO	District Forest Officer
DN	Digital Numbers
DoA	Department of Agriculture
DoRD	Department of Rural Development
DoSCD	Department of Scheduled Caste Development
DoSTD	Department of Scheduled Tribe Development
DPC	District Planning Committee
DPO	District Planning Officer
DPR	Detailed Project Report
DRDA	District Rural Development Authority
EAS	Employment Assurance Scheme
EC	Environmental Clearance
ED	Executive Director
EDC	Eco Development Committee
EFL	Ecologically Fragile Land
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EMS	<i>E. Manakkil Shankaran</i> (Housing scheme)
EPA	Environmental Protection Act
ESA	Ecologically Sensitive Area
ESMF	Environmental and Social Management Framework
ESZ	Ecologically Sensitive Zones
FWD	Forests and Wildlife Department
F/R	Final Report
FC	Foreign Currency
FCC	False Color Composite
FD	Forest Department
FDA	Forest Development Agency
FDDE	Forest Dwellers/Indigenous People's Development Framework
FHH	Female Headed Households
FLD	Front-Line Demonstration
FMIS	Forest Management Information System
FPO	Farmer Producer Organizations
FSOI	Forest Survey of India
FY	Financial Year
G.O.	Government Order
GA	Geographic Area
GDDP	Gross District Domestic Product
GDP	Gross Domestic Product

Acronym	Description
GIS	Geographic Information System
GoI	Government of India
GoK	Government of Kerala
GP	Grama Panchayat
GPS	Global Positioning System
GRAMYA	Uttarakhand Decentralized Watershed Development Project
GSDP	Gross State Domestic Product
HADA	Hills Area Development Agency
HH	Household
HLTF	High Level Task Force
HLWG	High Level Working Group
HOFF	Head of Forest Force
HQ	Head Quarter
HRD	Human Resource Development
HS	High School
HUDCO	Housing and Urban Development Corporation
IAY	<i>Indira Awas Yojana</i> (Social Benefit Program to Give Housing for the Person of Rural Areas)
Ic/ R	Inception Report
ICAR	Indian Council of Agriculture Research
ICDS	Integrated Child Development Services
IFAW	International Fund for Animal Welfare
IGA	Income Generation Activity
IHRD	Infrastructure and Human Resource Development
IIT	Indian Institute of Technology
ITDP	Integrated Tribal Development Project
It/R	Interim Report
IUCN	International Union for Conservation of Nature
IWDP	Integrated Watershed Development Programme
IWMP	Integrated Water Management Programme
JED	Joint Executive Director
JFM	Joint Forest Management
JGSY	<i>Jawahar Gram Samridhi Yojana</i> (Community infrastructure development programme)
JICA	Japan International Cooperation Agency
JLG	Joint Liability Groups
JPY	Japanese Yen
JNNURM	<i>Jawaharlal Nehru</i> National Urban Renewal Mission
KAICO	Kerala Agro Industries Corporation Ltd.
KAMP	Kerala Agricultural Markets Project
KAU	Kerala Agricultural University
KCMMF	Kerala Cooperative Milk Marketing Federation Ltd.
KFRI	Kerala Forest Research Institute

Acronym	Description
KFWD	Kerala Forests and Wildlife Department
KILA	Kerala Institute of Local Administration
KIRTADS	Kerala Institute for Research, Training and Development Studies for SC/ ST
KLD	Kilo Litre per Day
KLGS DP	Kerala Local Government Service Delivery Project
KMMF	Kerala Cooperative Milk Marketing Federation Ltd.
KMSS	Kerala Mahila Samakiya Society
KPRA	Kerala Panchayat Raj Act
KRWSA	Kerala Rural Water and Sanitation Agency
KSBB	Kerala State Biodiversity Board
KSPCB	Kerala State Pollution Control Board
KVK	<i>Krishi Vigyan Kendra</i> (Organization for agricultural extension on research and technology issues)
KVS	<i>Karshika Vikasana Samithis</i> (Organization for agricultural extension services)
KWA	Kerala Water Authority
LC	Local Currency
LP	Lower Primary
LR	Land Resources
LS / l.s.	Lump Some
LSG	Local Self Government
LSGD	Local Self Government Department, Kerala
M & E	Monitoring and Evaluation
MEDP	Micro Enterprise Development Programme
MFP	Minor Forest Produce
MGNREGS	<i>Mahatma Gandhi</i> National Rural Employment Guarantee Scheme
MGNREGA	<i>Mahatma Gandhi</i> National Rural Employment Guarantee Act
MHH	Male Headed Household
MIS	Management Information System
MKSP	<i>Mahila Kisan Sashaktikaran Pariyojana</i> (Women empowerment in agriculture sector, NRLM scheme)
MLA	Member of Legislative Assembly
MoEF	Ministry of Environment and Forests
MoRD	Ministry of Rural Development
MOU	Memorandum of Understanding
MP	Member of Parliament
MP	Medical Plant
MRS	Model Residential School
MSDP	Multi-Sectoral Development Programme
MSL	Mean Sea Level
MSP	Minimum Support Price
MT	Metric Ton

Acronym	Description
Mw	Mega watts
NABARD	National Bank for Agricultural and Rural Development
NAP	National Afforestation Programme
NBA	<i>Nirmal Bharath Abhiyan (Previously called Total Sanitation Campaign, GoI scheme)</i>
NDRF	National Disaster Response Fund
NGC	New Generation Cooperatives
NGO	Non Government Organization
NGT	National Green Tribunal
NHG	Neighborhood Help Group
NHM	National Horticulture Mission
NMMI	National Mission on Micro-Irrigation
NPV	Net Present Value
NRDWP	National Rural Drinking Water Programme
NREGS	National Rural Employment Guarantee Scheme
NRHM	National Rural Health Mission
NRLM	National Rural Livelihood Mission
NRM	Natural Resource Management
NRSC	National Remote Sensing Centre
NRYP	<i>Nehru Rojgar Yojana (A scheme to provide employment to the urban unemployed/ under-employed poor)</i>
NSAP	National Social Assistance Programme
NTCA	National Tiger Conservation Authority
NTFP	Non Timber Forest Produces
O & M	Operation and Maintenance
OBC	Other Backward Class
ODA	Official Development Assistance
OFT	On-Farm Trial
OJT	On the Job Training
OVS	<i>Ooru Vikas Samiti (People's committee constituted at a tribal hamlet)</i>
PCCF	Principal Chief Conservator of Forests
PFM	Participatory Forest Management
PHC	Primary Health Centre
PI	Peoples' Institution
PMC	Project Management Consultant
PMGSY	<i>Pradhan Mantri Gram Sadak Yojana (A scheme to provide all weather road connection, Ministry of Rural Development)</i>
PMU	Project Management Unit
PPP	Public Private Partnership
PRA	Participatory Rural Appraisal
PRI	<i>Panchayat Raj Institution (Local Self Government)</i>
PSR	Project Status Report
PTA	Parent Teacher Association

Acronym	Description
PUF	Poly Urethane Foam
PVTG	Particularly Vulnerable Tribal Groups
PWD	Public Works Department
R & D	Research and Development
RAIDCO	Regional Agro Industrial Development Cooperative of Kerala Ltd
RARS	Regional Agricultural Research Station
RAWM	Rural Agricultural Wholesale Market
RF	Reserved Forest
RFO	Range Forest Officer
RGGVY	Rajiv Gandhi G. Vidyut Yojana (Electrification Program)
RIDF	Rural Infrastructure Development Fund
RKVY	<i>Rashtriya Krishi Vikas Yojana</i> (A special Central Assistance Scheme provided by the Government of India)
RRA	Rapid Rural Appraisal
RS	Remote Sensing
Rs.	Indian Rupees
SBSAP	State Biodiversity Strategy and Action Plan for Kerala
SAFP	Save a Family Plan
SC	Scheduled Caste
SCA	Special Central Assistance
SCP	Special Component Plan
SCST & FM	Scheduled Castes, Schedule Tribes and Forest Management
SEAC	State Level Expert Appraisal Committee
SEIAA	State Level Environment Impact Assessment Authority
SGSY	<i>Swarnajayanti Gram Swarozgar Yojna</i> (Sustainable Rural Income Generation Scheme by Ministry of Rural Development)
SHG	Self Help Group
SIRD	State Institute of Rural Development
SNF	Solids Not Fat
SoI	Survey of India
SPCB	State Pollution Control Board
SPB	State Planning Board
SSA	<i>Sarva Shiksha Abhyas</i> (Everybody Education Practice)
ST	Scheduled Tribe
SupplyCo	The Kerala State Civil Supplies Corporation
TDF	Tribal Development Fund
TOR	Terms of Reference
TPD	Tons Per Day
TSC	Total Sanitation Campaign
TSCS	Tribal Service Cooperative Societies
TSP	Tribal Sub Plan
UD & LD Clerk	Upper Division and Lower Division Clerk

Acronym	Description
UN	United Nations
UP	Upper Primary
USD	United States Dollar
USFWS	United States Fish and Wildlife Services
UTM	Universal Transverse Mercator
VAT	Value Added Tax
VF	Vested Forest
VFPCCK	Vegetable Fruits Promotion Council of Kerala
VS	<i>Vikasana Samithi</i> (People's Institution)
VSS	<i>Van Samrakshana Samithies</i> (Village Forest Committee)
VSSCF	VSS Core Fund
VSSEC	VSS Executive Committee
WAM	Wayanad Agro Movement
WG	Working Group
WGEEP	Western Ghats Ecology Expert Panel
WGS	World Geodetic System
WL	Wildlife
WOAC	Wayanad Organic Agriculture Consortium
WSSS	Wayanad Social Service Society (NGO)
WTI	Wildlife Trust of India

PART-I Overview of the Survey

Chapter 1 Introduction

1.1 Background to the Survey

The State of Kerala (Kerala) is located in the most southern part of India and known for its high literacy rate and better social development indicators. However, such macro level indicators do not always reflect the community level reality.

The proposed project district, Wayanad District (Wayanad) is located in the northern part of Kerala and known for the concentration of tribal population. Its socio economic indicators show that the district has not fully benefited from the overall development of Kerala. The proportion of BPL families is as high as 57.55% (BPL Survey 2009¹) and the per capita income is estimated at Rs. 77,234² which is ranked the 13th among the 14 districts in Kerala. Wayanad is also regarded as one of the 250 most backward districts in India by the Planning Commission of the Central Government of India (GoI). With this background, development of Wayanad has been an important issue of Kerala to be dealt with.

In 2012, the Detailed Project Report (DPR) of the Wayanad Comprehensive Environmental Conservation and Community Development Project (the Project) was submitted by Attappady Hills Area Development Society – Centre for Comprehensive Participatory Resource Management (AHADS-CCPRM) through the Department of Local Self Government (LSGD) of Kerala to Japan International Cooperation Agency (JICA) in request for financial support. Subsequently, the DPR was revised by AHADS-CCPRM and re-submitted to JICA in 2013 as “Concept Note”.

JICA has conducted an informal review and identified further need for confirming the necessity of the Project based on the objective data, further elaboration of the implementation structure and methods. Thus, to verify the developmental needs of the Project area and to review the Project plan with reference to the objective and scientific data, JICA dispatched a Survey Team to undertake the Preparatory Survey for the Wayanad Comprehensive Environment Conservation and Community Development Project (the Survey).

1.2 Objectives of the Survey

The objectives of the Survey are: i) to validate the necessity and relevance of the Project; ii) to scrutinise project components, project cost, implementation schedule, methods of implementation (procurement and construction), structure of implementation, operation and maintenance, and environment and social consideration, and iii) to collect additional data/information required for loan appraisal concerning the survey items.

1.3 Scope of Survey

1.3.1 Survey Area

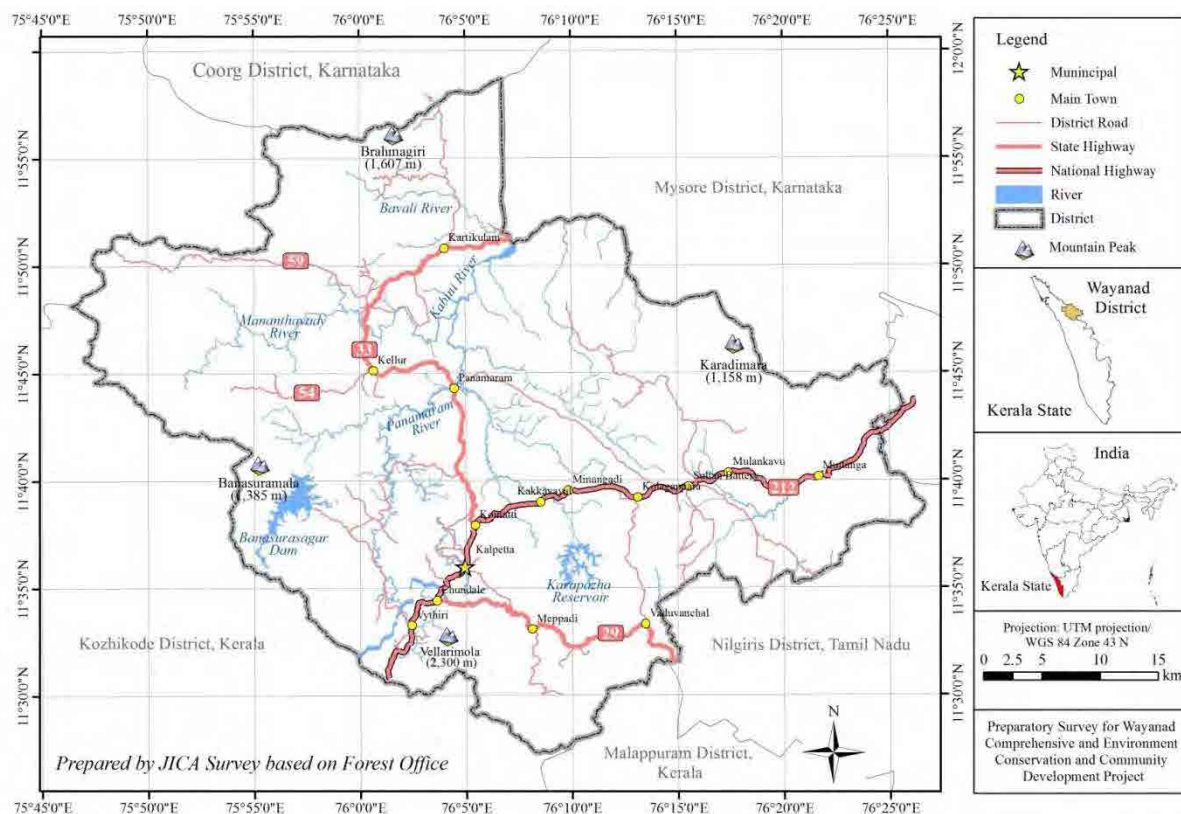
The Survey Area is Wayanad district located in the northern part of Kerala bounded on the east by Nilgiris and Mysore districts of Tamil Nadu and Karnataka respectively, on the north by Coorg district of Karnataka, on the south by Malapurram district and on the west by Kozhikode and Kannur districts. The district covers the geographical area of 2,129.17 km², which accounts for 5.48% of the total area of Kerala.

The district is landlocked area and hence has no coastal line. It lies between north latitudes 11° 26' 28" and 11° 58' 22", and east longitudes 75° 46' 38" and 76° 26' 11" with elevation ranging between 700m

¹ BPL Survey 2009, Government of India. Data obtained from Commissionerate of Rural Development, Kerala.

² Per capital income was estimated by the Department of Economics and Statistics, Government Kerala, based on the Gross District Domestic Product at constant price (Base Year 2004-05)

and 2,100m of above sea level. It is situated in an elevated picturesque mountainous plateau on the crest of Western Ghats. Being hilly district, vast area of district consists of forest (40%). Wayanad converges several different types of vegetation along the windward and leeward side of the Western Ghats and is dominated by Malabar floristic elements. The total area under forests³ in Wayanad is 807.74 km² (JICA Survey Team). An overview of the present condition of Wayanad District is provided below.



Location of Wayanad District

Source: Prepared by JICA Survey Team (2014) based on shape file date of road, river and district boundary supplied by Forest Department of GoK

Wayanad District

Item	Particulars
Total Area	2,131 km ²
Location / Altitude	Latitude: 11° 26'-11° 58' N, Longitude: 75° 46'-76° 26' E Altitude 700~2,100m
Administrative Units	<p><u>Panchayat Raj Institution</u></p> <p>District Panchayat: 1 Block Panchayat: 4 (Kalpetta, Mananthavady, Panamaram and Sulthan Bathery) Grama Panchayat: 25 Grama Panchayat Wards: 459</p> <p><u>Revenue Administration</u></p> <p>Thaluk: 3 (Vythiri, Mananthavady and Sulthan Bathery) Revenue Village: 48</p> <p><u>Municipal Town:1 (Kalpetta)</u></p>

³ The area under forest is identified from the vegetative point of view and differentiated from legislatively delineated state forest land of 862.05 km².

Item	Particulars
Vegetation and Land use (% against total district area) ⁴	Built-up (Rural): 33.23 km ² (1.56%) Agriculture: ➤ Crop Land: 176.99 km ² (8.31%) ➤ Plantation: 905.77 km ² (42.53%) ➤ Fallow: 59.80 km ² (2.81%) Forest: 807.74 km ² (37.93%) Waste Land: 59.86 km ² (2.81%) Grass Land: 53.47 km ² (2.51%) Water Body: 23.08 km ² (1.08%) Total: 2129.74 km ² (100%)
Landholding (2010-11) ⁵	Marginal (Below 1.00 ha): 154,864 households Small (1.00 – 1.99 ha): 13,341 households Semi-medium (2.00 – 3.99 ha): 4,832 households Medium (4.00 – 9.99 ha): 1,177 households Large (10.00 ha and above): 203 households
Forest Types ⁶	Evergreen/ Semi Evergreen forest: 304.92 km ² Moist/ dry deciduous forest: 231.67 km ² Scrub Forest: 97.46 km ² Forest Plantations: 173.69 km ² Total Forest: 807.74 km ²
Mean Temperature	23.8°C
Average Annual Precipitation	North: 2,464mm/ South: 1,825mm
Demography (Census 2011)	Total Population: 785,840 (Male: 386,283, Female: 399,557) SC Population: 30,378 (Male: 15,281, Female: 15,097) ST Population: 148,215 (Male: 73,011, Female: 75,204) Total No of Households: 183,375
Gross District Domestic Product / Per Capita Income at Current Price (2012-13) (Base Year 2005-06) ⁷	Sector Wise Gross District Domestic Product Primary Sector: Rs. 7,1729 million (9.34%) Secondary Sector : Rs. 5,500 million (23.94%) Tertiary Sector: Rs. 28,998 million (66.72%) Total: Rs. 41,670 million (100%) Per Capita Income: Rs. 77,243⁸
BPL Families (BPL Survey 2009)	Total No of BPL Families: 102,762 (57.55% out of the Total No. of Families in Wayanad in 2009/ 178,572) No. of BPL Families by Social Group: ST: 32,537 families/ SC: 7,926 families/ General: 24,511 families/ Minority: 37,788 families
Literacy Rate (2011) ⁹	85.7% (Male: 92.84%, Female: 85.94%)

Reflecting on the government recognition of socio-economic vulnerability of Wayanad, a number of schemes/programmes are being implemented by the government agencies as presented in **Chapter 2**. More than one intervention is often implemented in the same geographical area.

1.3.2 Scope of Work

The Survey has covered entire Wayanad District except Kalpetta Municipality. The Survey works has been conducted to fulfil the objectives of the Survey as given in the preceding **Section 1.2**. An

⁴ Remote sensing analysis by the JICA Survey Team.

⁵ Source: Provisional report on 9th agriculture census (Phase I) 2010-11.

⁶ Remote sensing analysis by the JICA Survey Team.

⁷ Gross district Domestic Product (At Factor Cost by Industry of Origin). Department of Economic and Statistics, Government of Kerala.

⁸ Estimate was done on the basis of 2012-13 Gross District Domestic Product at Current Price with Mid Year Population (Quick).

⁹ Economic Review 2013. Kerala State Planning Board.

extensive field work has been conducted by the Survey Team members and the findings are reported in this Draft Final Report (Df/R) as agreed on the contract between JICA and Nippon Koei Co., Ltd.

1.4 Overall Framework of the Survey

1.4.1 Survey Team and Input

The JICA Survey Team (the Survey Team) is comprised of eight (8) international experts specialised in various technical field including community development, gender, community infrastructure, agriculture, forest management / soil conservation, environment / social consideration and GIS. The list of the experts is given in the table below. In total, 18.47 Person Months are allocated for the field work in India and 1.95 Person Months for works in Japan. The Survey Team employed 10 national specialists to work with the International Specialists.

Deployment of the Experts

Unit: Person Months

Position	Name of the Expert	Deployed in India	Deployed in Japan
Team Leader/Community Development	Seiji KOYANAGI	2.40	0.80
Additional Team Leader Livelihood Improvement • Gender	Michiko EBATO	4.07	0.80
Small Scale Infrastructure	Kuninobu NODA	2.80	0.00
Agriculture • Rural Development	Yukiko JOHO	2.40	0.00
Soil Conservation/ Afforestation • Forest Management	Hiromi YASU	3.00	0.00
Environmental and Social Considerations	Koji ASANO	1.20	0.35
GIS	Ayumi FUKUO	2.30	0.00
Institution/ Coordination	Aya MIZUNO	0.30	0.00
<i>Source: JICA Survey Team (2014)</i>		Total	18.47
<i>Note: As of 31th August, 2014</i>		Grand Total	20.42

1.4.2 Survey Period

The Survey period has been set between March and September 2014 for seven calendar months. During the period, works in Japan as well as in India were executed according to the schedule agreed between JICA and the Survey Team.

The first field work for the Survey was conducted in March 2014 after the kickoff meeting on the 7th March 2014 in Thiruvananthapuram, Kerala. The 2nd field work commenced on the 21st April 2014 and the data collection has been undertaken by the Survey Team up to the 23rd of July 2014. During the 2nd field work period, the data collection has met difficulties as the acquisition procedure and the offices/agencies concerned to obtain the geographical information and demographic data were not very clear and thus, a bulk of time was spent to visit various offices and requesting official support letters from LSGD, from AHADS-CCPRM and/or from the Survey Team. This has led to the delay in the Survey progress. Lack of up-to-date and accurate data has made the certain level of inaccuracy in data analysis inevitable. The Interim Report (It/R) was submitted to JICA on 7th of July 2014.

The Survey Team has developed a proposed plan and cost estimate based on the needs presented in the It/R. The Draft Final Report (Df/R) was submitted in August 2014 and finalised by the end of September 2014. The Final Report is scheduled to be submitted on 1st October 2014.

1.4.3 Assistance of Executing Agency

The Local Self Government Department (LSGD) of the State Government of Kerala (GoK) is the executing agency of the proposed project. According to the Aid Memoire dated 3rd July 2013, the following undertakings were agreed between the GoI and JICA.

- i) The GoI takes the responsibilities for ensuring the smooth implementation of the Survey works except when such claim arises from gross negligence or wilful misconduct on the part of the members of the Survey Team.
- ii) LSGD acts as the responsible agency and will coordinate with other concerned government agencies, NGOs and any other stakeholders. Furthermore, support for the data and documents acquisition relevant to the Survey, provision of the relevant maps and photographs with free of cost are also included as part of its undertakings.
- iii) Attappady Hills Area Development Society – Centre for Comprehensive Participatory Resource Management (AHADS-CCPRM), the prospective implementing agency of the Project, is the counterpart of the Survey Team and coordinates with the concerned government agencies of the GoK as well as NGOs in and around the Survey areas.

1.5 Structure of the Report

The Draft Final Report of the Survey is comprised of four volumes. Volume I provides an executive summary of the Df/R. Volume II contains the present condition of the Survey area, situational analysis, identification of the issues and proposed implementation plan of the Project. The Volume III contains the Annexes to the Main Report (Volume II). The Project cost and evaluation are given in Volume IV.

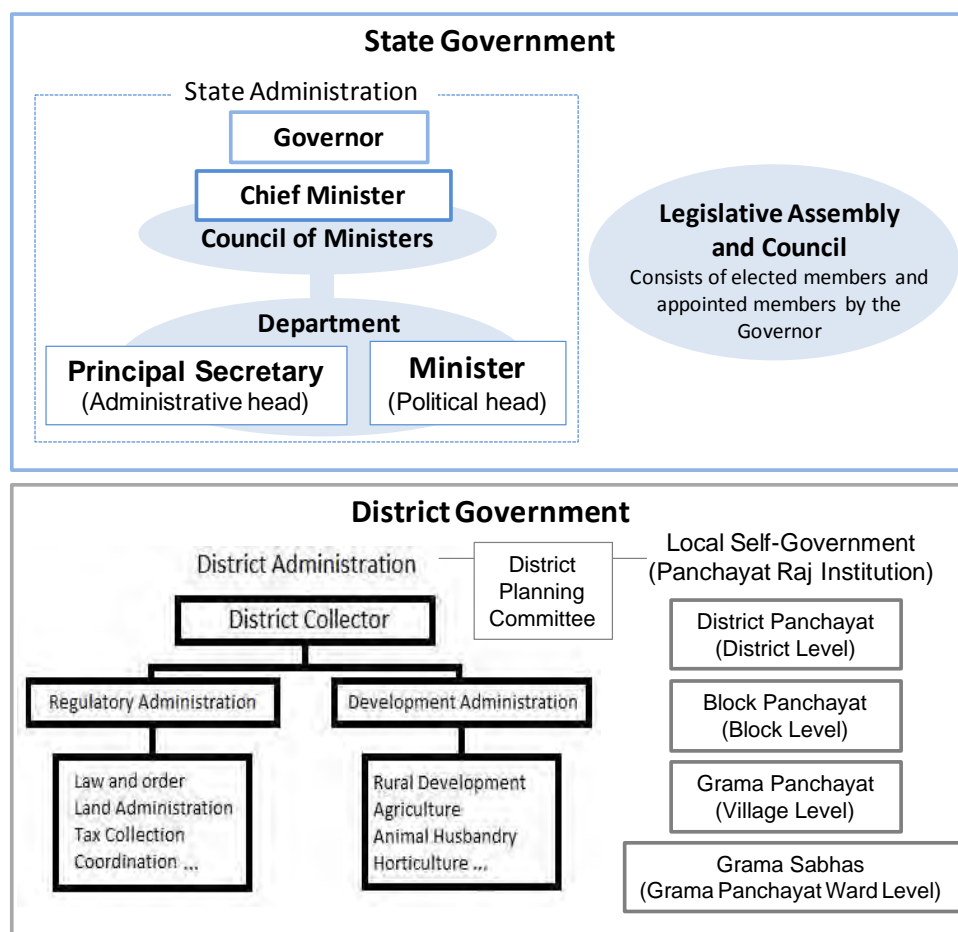
PART-II Present Condition of the Survey Area

Chapter 2 Administration System

2.1 Administrative Structure

2.1.1 State and District Administrative Structure

The structure of the Government of Kerala (GoK) and Wayanad District is shown in the figure below.



Structure of Government of Kerala State and Wayanad District

Source: Edited by JICA Survey Team (2014) based on the GoK web site¹ and "A presentation by the Administrative Reforms Commission, Government of India"²

In the state administration, Departments are led by the Ministers and Secretaries under the Chief Minister. The structure of the Departments is shown in the following section. The district administration, comprised of Regulatory and Development Administration, is led by District Collector who is appointed by GoK. In parallel, the Local Self Government (LSG), that is the Panchayat Raj Institutions (PRIs), is composed of the members directly elected from the constituencies at the respective District, Block, Grama Panchayat levels. PRI has three tier of District, Block and Grama Panchayat, which are democratic planning and decision making bodies. In Wayanad, the following number of PRIs was identified as of March 2014.

¹ http://www.kerala.gov.in/index.php?option=com_content&id=3866&Itemid=3069 (Accessed on 13 May 2014)

² <http://arc.gov.in/viet.ppt>

Numbers of Wards at the Three Tier in Wayanad

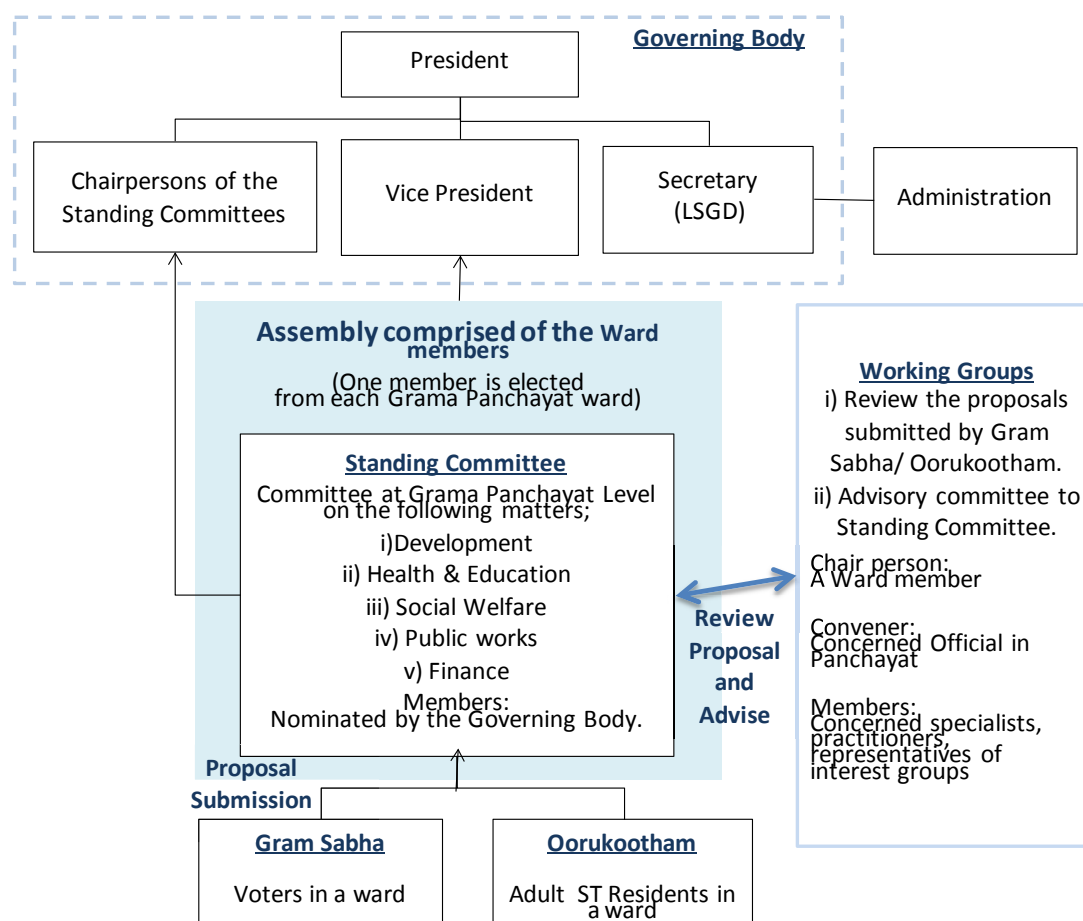
Ward at each Level	Number of Panchayats	Number of Wards
District Panchayat Division	1	16
Block Panchayat Ward	4	57
Grama Panchayat Ward	25	461

Source: JICA Survey Team

According to Kerala Panchayat Raj Act 1994 (KPRA1994), the structures of the Panchayats at each level are similar to each other in the following points;

- (i) Panchayat is led by President and Vice President elected by the elected Panchayat members.
- (ii) Panchayat consists of Assembly / Standing Committee of the elected members and Administration, and Working Groups at appropriate.
- (iii) Panchayat members are comprised of the elected members. Based on the population ratio of the Scheduled Castes (SC) or Tribes (ST) at each Panchayat level, a part of the total number of the seats at each Panchayat level, is reserved for the SC or ST. One-third of the total seats reserved for SC/ ST is reserved for the women of SC/ ST according to KPRA1994. Block Panchayat is comprised of the elected ward members including reserved members and the Grama Panchayat Presidents of the concerned Block

The structure of Grama Panchayat is shown in the following figure.

**Structure of Grama Panchayat in Wayanad District**

Source: Edited by JICA Survey Team (2014)

Each Grama Panchayat Ward has a local body for democratic decision making, called Grama Sabha, in which all the voters are the members. Apart from it, a traditional local body, called Oorukootam,

which is comprised of all the adult ST, functions to provide separate arena for discussion about the issues which are pertinent to the tribal communities. The decisions taken at the Grama Sabha and Oorukoottam are directly communicated to the Standing Committee of the Grama Panchayat (GP) by the ward members.

Grama Sabha is constituted at each of the 461 Grama Panchayat Wards. Meanwhile, in total 463 Oorukoottams are constituted in the Grama Panchayat Wards where ST people are residing. In Noolpuzha Panchayat, more than one Oorukoottam were formed by the ST residents in a Ward, whereas one Oorukoottam was constituted by the ST residents in a multiple number of Wards in Vythiri Panchayat. In the case of Wayanad, Oorukoottam may be formed on the basis of a single or multiple number of hamlet(s) or colony(s). Both of the local bodies are summarized in the following table.

Organisation of Grama Sabha and Oorukoottam

	Grama Sabha	Oorukoottam
Number of Bodies	461 ³	463 ⁴
Convener	Ward member	Ward member
Secretary	Secretary of the Panchayat	Tribal Promoter
Constituency	Ward	Ward or Colony(s) Most of the Grama Panchayat have Oorukoottam in each ward.
Members	All voters in a ward	STs
Agenda	Needs for development and issues to be resolved in the community Selection of the beneficiaries for various developmental schemes/ programmes	

Source: JICA Survey Team (2014)

After a Grama Panchayat Office checks the proposals from the Grama Sabhas and Oorukoottams, the Office submits proposal to the District Planning Officer (DPO). The examined and selected proposal by DPO is to be laid out to the agenda of District Planning Committee (DPC). The approved project by DPC is implemented by Grama Panchayat under supervision of related departments and other stake holders according to the KPRA 1994.

2.1.2 Roles of the Key Committees of GoK and District Government

The key comprehensive and cross-section committees to coordinate the related authorities for the State or District decision making is summarized in the following tables.

Summary of the Key Councils of Government of Kerala

Key Council	Role / Membership
Kerala State Development Council	Role: <ul style="list-style-type: none">- Formulation of policy matters related to local and regional development- Coordination of District and State plans- Creation of policy decisions for strengthening local bodies- Solutions finding for problems related to development activities
	Member:
	Chief Minister of the state (Chairman)
	State cabinet ministers and opposition leader (Vice chairmen)
	Chief Secretary (Member secretary)
	Chair persons of District Planning Committee (Member)
	Vice chairman of Kerala State Planning Board (Member)
	Mayors of Corporations (Member)

³ The number of Grama Sabha Wards was derived from the Panchayat maps attached to the Grama Panchayat development plan. The number of Wards may be changed at the time of election.

⁴ The number of Oorukoottam was recorded by the Survey Team during the field survey based on the minutes book kept at Grama Panchayat offices.

Key Council	Role / Membership			
	Two Municipal Chair persons/ Two district Panchayat citizens / Two block Panchayat citizens / Two Grama Panchayat citizens / recommended by state government (Member)			
Kerala State Planning Board	<p>Role:</p> <ul style="list-style-type: none">- Assistance for GoK to formulate a development plan based on a scientific assessment of resources available at the State- Preparation of a comprehensive economic review report of the State every year <p>Member:</p> <table><tr><td>Chief Minister of the State (Chairman)</td></tr><tr><td>Non officials (Vice chairman)</td></tr><tr><td>Others invited according to the subjects (Members)</td></tr></table> <p>The official duties of the Board are performed by eight important divisions: 1.Plan Co-ordination 2.Agriculture 3.Evaluation 4.Social Service Division 5.Industry and Infrastructure Division 6.Decentralized Planning Division 7.Perspective Planning Division 8.Information and Technology Wing</p>	Chief Minister of the State (Chairman)	Non officials (Vice chairman)	Others invited according to the subjects (Members)
Chief Minister of the State (Chairman)				
Non officials (Vice chairman)				
Others invited according to the subjects (Members)				

Source: Compiled by the JICA Survey Team (2014) based on the LSDG web site³

Summary of the Key Boards/ Councils of Wayanad District

Key Council	Role / Membership
District Planning Committee (DPC)	Role: To give official approval to all the development plans at all levels in the district
	Member:
	District Panchayat President (Chairman)
	District Collector (Member Secretary)
	District Planning Officer (Convener)
	Heads of all the government departments in the district (Joint Convener)
	1 Representative of all Grama Panchayats (the President of the Grama Panchayats) (Member)
	1 Representative of all the Blocks (the President of the Block Panchayat) (Member)
	1 Representative of Municipality (Member)
12 elected members among the district level division members and special invitee (Member)	
Technical Advisory Group	Role: To gives sanction on the project proposals Member: Heads of all the departments in the district Meeting: Convenes depending on the requirement

Source: Compiled by the JICA Survey Team (2014)

2.2 Department and Agencies Relevant to the Project

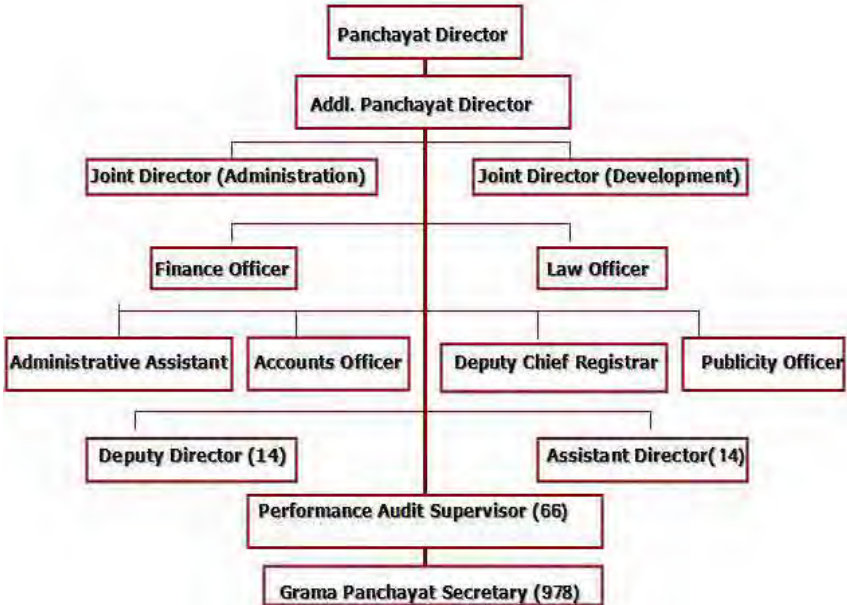
2.2.1 Departments and Agencies relevant to the Project in Various Sectors

The related departments of GoK are summarized in the following tables.

Summary of the Key Departments of Government of Kerala

Agency	Mandate / Related Recent Activities
Local Self Government	
Local Self Government Department (LSGD) ⁵	<p><u>Mandate:</u> Formulation and implementation of developmental works at the grass root level, and coordination of the related agencies from the Central level to the local level</p> <p><u>Structure:</u></p> <p style="text-align: center;">LSGD</p> <pre> graph TD LSGD[LSGD] --> MP[Minister, Panchayats] LSGD --> MRD[Minister, Rural Development] LSGD --> MMC[Minister, Municipalities & Corporation] MP --> PD[Panchayats Directorate] MRD --> CRD[Commissionerate of Rural Development] MMC --> DU[Directorate of Urban Affairs] </pre>
Department of Rural Development (DoRD) ⁶	<p><u>Mandate:</u> Implementation of all development programs of the state government as well as programs sponsored by the central government</p> <p><u>Activity:</u></p> <ul style="list-style-type: none"> - Credit linkage formation through Self Help Groups (SHGs) for poverty alleviation - Wage employment schemes - Supply of subsidy for housing - Involvement of communities in decision making to develop drinking water and sanitation - Improvement of rural connectivity through construction of roads with plans vetted by local self governments - Conversion of wasteland into cultivable land using the watershed approach <p><u>Structure:</u></p> <pre> graph TD CRD[Commissionerate of Rural Development] --> DC[District Collectorate] CRD --> DP[District Panchayat] DC --> ADC[Assistant Development Commissioner] DP --> PEU[Poverty Eradication Unit] ADC --> SI[Super Intendent etc.] </pre>

⁵ http://lsg.kerala.gov.in/en/LSGDDept_en.php (19th June 2014)⁶ Government of Kerala www.old.kerala.gov.in (Accessed on the 13th June 2014)

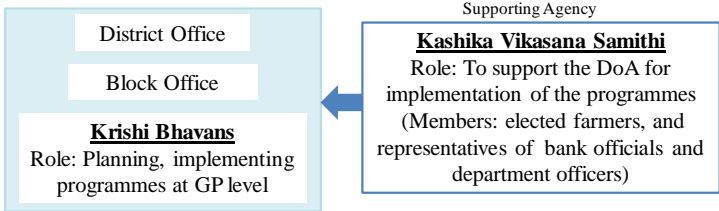
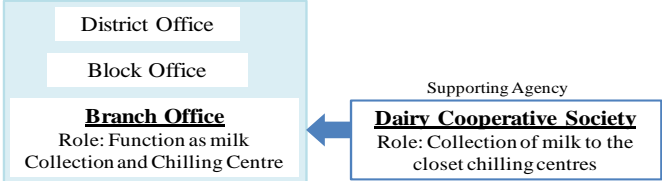
Agency	Mandate / Related Recent Activities
Department of Panchayat Raj ⁷	<p><u>Mandate:</u></p> <ul style="list-style-type: none"> - Facilitation of local government in rural areas to meet local needs and with the involvement of locally elected people's representatives - Encouragement of participation of communities in the democratic process - Taxation <p><u>Activity:</u> Supply of civic amenities, and carry out development programmes</p> <p><u>Structure:</u></p>  <pre> graph TD PD[Panchayat Director] --> APD[Addl. Panchayat Director] APD --> JDA[Joint Director (Administration)] APD --> JD[Joint Director (Development)] JDA --> FO[Finance Officer] JD --> LO[Law Officer] FO --> AA[Administrative Assistant] FO --> AO[Accounts Officer] JD --> DCR[Deputy Chief Registrar] JD --> PO[Publicity Officer] AA --> DD14[Deputy Director (14)] AO --> DD14 DCR --> AD14[Assistant Director (14)] PO --> AD14 DD14 --> PAS[Performance Audit Supervisor (66)] AD14 --> PAS PAS --> GPS[Grama Panchayat Secretary (978)] </pre>
Social Welfare	
Department of Scheduled Tribe Development (DoSTD) ⁸ / Scheduled Caste Development (DoSCD) ⁹	<p><u>Mandate:</u> Uplift of ST and SC and other backward classes</p> <p><u>Activities:</u></p> <ul style="list-style-type: none"> - Educational assistance - Housing support - Health Scheme - Assistance for marriage of ST/SC girls - Resettlement of landless tribes - Provide land to landless SC - Employment assistance
Social Welfare Department ¹⁰	<p><u>Mandate:</u> Overall care, protection, welfare, development and rehabilitation of women, children, and differently abled people</p> <p><u>Activities:</u></p> <ul style="list-style-type: none"> - Integrated women empowerment program - Grievance redressal on sexual harassment - Protection of women from domestic violence - Pension for persons with disabilities and widowed destitute - Financial assistance to widows for the marriage of their daughters

⁷ http://kerala.gov.in/index.php?option=com_content&view=article&id=1874:panchayat-department-panchayat&Itemid=2257 (Accessed on the 13th June 2014)

⁸ <http://std.kerala.gov.in/> (Accessed on the 13th June 2014)

⁹ www.scd.kerala.gov.in (Accessed on the 13th June 2014)

¹⁰ <http://www.justkerala.in/kerala-govt-departments/social-welfare-department> (Accessed on the 13th June 2014)

Agency	Mandate / Related Recent Activities
Agriculture	
Department of Agriculture (DoA) ¹¹	<p><u>Mandate:</u></p> <ul style="list-style-type: none"> - Achievement of targeted growth rate for agriculture sector by successful implementation of various schemes - Safeguard of the interest of farmers, ensure food and nutritional security and support Kerala's agricultural economy - Conservation and protection of the state's agricultural and natural resources by promoting environmentally safe agricultural practices <p><u>Activities:</u></p> <ul style="list-style-type: none"> - Planning, implementation and monitoring of the state and central scheme - Agricultural extension and transfer of technology and giving recognition to farmers for their outstanding efforts in producing maximum output from unit area - Production and distribution of improved seed and planting materials and organizing a sustainable seed programme and quality control of inputs of seeds, fertilizers and pesticides - Promotion of value addition and eco friendly practices in agriculture - Providing market infrastructure, and providing crop insurance cover to farmers <p><u>Administrative structure in a district:</u></p>  <p><i>Note: Krishi Bhavans is Panchayat level agricultural office of DoA. Kashika Vikasana Samithi is an institution for extended agricultural service at Panchayat level.</i></p>
Animal Husbandry Department ¹²	<p><u>Mandate:</u> Improvement of quality and quantity of livestock and allied products</p> <p><u>Activities:</u></p> <ul style="list-style-type: none"> - Increase and improvement of the livestock population of the state - Increase of the production of milk, egg and meat by breeding, artificial insemination etc. - Creation of more self employment opportunities in animal husbandry - Prevention and mitigation of animal diseases - Provision of modern scientific practices in animal husbandry to farmers - Scientific studies on livestock rearing
Dairy Development Department (DDD) ¹³	<p><u>Mandate:</u></p> <ul style="list-style-type: none"> - Enhancement of milk production and consumption through providing facilities for profitable dairy, fodder development, and training - Administration of dairy cooperatives - Registration and control milk processing plants - Compliance to food safety standards <p><u>Administrative structure in a district:</u></p> 

¹¹ Government of Kerala website: www.keralaagriculture.gov.in/index.asp (Accessed on the 13th June 2014), Source: Performance Evaluation of Krishi Bhavan Set-up in Kerala; Jinraj. P. V; Discussion Paper No. 8; December 1999

¹² http://ahd.kerala.gov.in/docs/rti_2_3_12.pdf (Accessed on the 13th June 2014)

¹³ <http://www.dairy.kerala.gov.in/index.php/orgstructure> (Accessed on June 2014)

Agency	Mandate / Related Recent Activities																
Forest / Environment																	
Forests and Wildlife Department ¹⁴ (FWD)	<p>Mandate: Forest protection, biodiversity conservation, wildlife management, forest development, social forestry, forest vigilance, evaluation, eco-development, tribal welfare, planning, research, tribal rehabilitation special afforestation, infrastructure, human resource development, etc.</p> <p>Activities:</p> <ul style="list-style-type: none">- Conservation and expansion of natural forests of Kerala- Increase of the productivity of forest plantations through appropriate management- Increase of the forest cover to meet the timber & non-timber demands- Empowerment and improvement of the livelihood of forest tribes, women and other weaker sections of the society through scientific, transparent and responsible methods <p>Structure:</p> <div><div><div>PCCF (Head)</div><div><div>PCCF (General)</div><div>CCF (North Region/ CCF (Kannur)</div><div>DFO (North/ South)</div><div>RFO, SFO, BFO</div></div><div><div>PCCF (Development & Planning)</div><div><div>Add PCCF (Planning)</div><div>CCF (Working Plan)</div><div>CF (Working Plan)</div></div><div><div>Add PCCF (Social Forestry)</div><div>CCF (Social Forestry)</div><div>ACF (Social Forestry)</div></div><div><div>CCF (Wildlife)</div><div>CCF (Wildlife)</div><div>Wildlife Warden</div><div>AWW, RFO, SFO, BFO</div></div></div></div><table><tr><td>PCCF</td><td>Principal Chief Conservator of Forest</td><td>CCF</td><td>Chief Conservator of Forest</td></tr><tr><td>ACF</td><td>Assistant Conservator of Forest</td><td>CF</td><td>Conservator of Forest</td></tr><tr><td>DFO</td><td>Divisional Forest Officer</td><td>RFO</td><td>Range Forest Officer</td></tr><tr><td>BFO</td><td>Beat Forest Officer</td><td>AWW</td><td>Assistant Wildlife Warden</td></tr></table></div>	PCCF	Principal Chief Conservator of Forest	CCF	Chief Conservator of Forest	ACF	Assistant Conservator of Forest	CF	Conservator of Forest	DFO	Divisional Forest Officer	RFO	Range Forest Officer	BFO	Beat Forest Officer	AWW	Assistant Wildlife Warden
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DFO	Divisional Forest Officer	RFO	Range Forest Officer														
BFO	Beat Forest Officer	AWW	Assistant Wildlife Warden														
Infrastructure																	
Housing Department ¹⁵	<p>Mandate: Co-ordination of various housing schemes in the state</p> <p>Activities: Formulation and implementation of various housing construction, improvement, rehabilitation schemes as well as housing loan schemes for catering the housing needs of public belonging to various income groups</p>																
Public Works Department (PWD) ¹⁶	<p>Mandate: Planning of infrastructure development, construction, improvement of infrastructure</p>																

Source: Compiled by JICA Survey Team (2014) based on the related web sites of GoK and other documents

According to the G.O.¹⁷, the departments listed below are transferred to PRI. PRI is responsible for the administration of the departments by planning, project implementation, and monitoring at the levels of of district, block, and Grama Panchayat.

¹⁴ www.forest.kerala.gov.in (Accessed on the 13th June

2014), http://www.forest.kerala.gov.in/index.php?option=com_content&view=article&id=59&Itemid=37 (Accessed on the 10th June 2014)

¹⁵ http://kerala.gov.in/index.php?option=com_content&view=category&layout=blog&id=72&Itemid=321 (Accessed on the 13th June 2014)

¹⁶ <http://www.keralapwd.gov.in/index.php> (Accessed on the 13th June 2014)

¹⁷ G.O. (P) 188/2000/LSGD dated 4th July 2000 issued by the Local Self Government (p) Department

List of District Level Departments Transferred to PRI

➤ Agriculture	➤ Social Welfare Department
➤ Soil Conservation	➤ Scheduled Castes Development
➤ Animal Husbandry	➤ Scheduled Tribes Development
➤ Dairy Development	➤ Health Services
➤ Fisheries	➤ Education
➤ Industries	➤ Kerala Khadi and Village Industries
➤ Rural Development	➤ Kerala State Electricity Board

Source: G.O. (P) 188/2000/LSGD dated 4th July 2000 issued by the local self government (p) department

Under the GoK, there are various forms of organizations such as autonomous body, cooperative society, etc. The key other agencies are summarized in the following table.

Summary of the Related Key Agencies

Institutions	Description on Roles and Activities / Budget / Related Agencies
Livelihood Improvement	
National Bank for Agriculture and Rural Development (NABARD)	<p>Role:</p> <ul style="list-style-type: none"> - To finance for the Self Help Groups (SHGs) and Joint Liability Groups (JLGs) through intermediaries such as banks and NGOs. - To finance for operation of various developmental projects such as livelihood improvement, watershed management programmes, infrastructure construction. The project operation is undertaken by NGOs and other concerned agencies. <p>Annual Budget: Rs.2.74 billion in entire India in 2014</p> <p>Organizational Form: Financial institution established by the GoI</p>
The Kerala Rural Employment and Welfare Society	<p>Role:</p> <ul style="list-style-type: none"> - To undertake activities designed to improve welfare for the rural people and the employment potential for the young men/women in the rural areas, under the supervision of LSGD <p>Organizational Form: Autonomous body</p>
Kudumbasree (District Mission)	<p>Role:</p> <ul style="list-style-type: none"> - To organize Neighborhood Group (NHG) and support its internal savings and credit, and activities for livelihood improvement through capacity building for business establishment and management by the micro enterprise consultants placed at each Panchayat. - The activities are implemented through District Kudumbasree Office, which has Panchayat Level elected body (Community Development Society / CDS) and Ward Level Elected Body (Area Development Society / ADS). <p>Annual Budget: Rs. 12 billion in Kerala in 2014</p> <p>Organizational Form: Autonomous body</p>
Rural Development	
State Institute of Rural Development (SIRD)	<p>Role:</p> <ul style="list-style-type: none"> - To conduct training programmes on; problem identification, management skills for efficient designing, implementing, monitoring and evaluating rural development programs - To carry out research and formulate operational policies - To implement rural developmental programmes <p>Annual Budget: Rs.9 million in Kerala in 2014-15</p> <p>Supervising Department: DoRD, LSGD</p> <p>Organizational Form: Autonomous body</p>
Hill Area Development Agency (HADA)	<p>Role: To implement projects on agriculture, water supply, irrigation, small roads, poverty reduction. HADA has initiated the loan subsidy scheme for the selected 37 SHGs in Wayanad in 2014 under DoRD.</p> <p>Annual Budget: Rs.1.19 billion in 2014</p> <p>Organizational Form: Development Authority</p>
Gender	
Kerala Mahila Samakiya Society	<p>Role:</p> <ul style="list-style-type: none"> - To address the issues of women and children, to provide various facilities for them such as leaning centres for women, shelter house for women, and formation of Vanitha Sabha

Institutions	Description on Roles and Activities / Budget / Related Agencies
(KMSS) ¹⁸ Started in 2012 in Kerala	(Women's Committee). - To implement some programmes through cooperation/ convergence with other agencies, for instance, cooperation with Kudumbasree and Integrated Child Development Services and Nirbaya (Fearless) Project Committee (a project aiming at sensitising society towards safety of women and children). Organizational Form: Autonomous body
SC/ ST Development	
SC/ ST Service Cooperative Societies and Federation	Role: To contribute to lift up SC/ST society through self employment schemes, micro-credit finance, housing, and educational loan, etc. Wayanad has four ST Cooperative Societies involved in NTFP collection and marketing, and nine SC Cooperative Societies, which are currently dormant although in the past they used to sell handicraft and organic manures.
Agriculture	
Dairy Cooperative Society (DCS)	Role: To collect milk from the dairy farmers to the closest milk chilling centres in the districts. The chilling centres keep the milk at its best condition before processing. Wayanad has 55 DCS.
Kerala Cooperative Milk Marketing Federation Ltd. (KMMF)	Role: - To promote marketing and sales under the brand of Milma - To improve of quality of milk, milk products, and milk production efficiency - To increase milk production - To expand market Expansion expenses including Advertisements - To Contribute to the State for the Dairy Farmer Welfare/ Pension Fund - To supply service of insurance, pension fund, education loan scheme for the farmer and cattle - To produce fodder and feed
Brahmagiri Development Society (BDS)	Role: To implement the innovative community-based farmer-oriented project 'Malabar Meat', in which a meat processing plant to produce 45 tons of meat per day was established.
Natural Resources Management	
Forest Development Agency (FDA)	Role: - To facilitate several Participatory Forest Management (PFM) activities as a federation of local people's community - To provide sustainable and assured employment opportunities to the tribal and other rural populations through National Afforestation Programme (NAP), Eco tourism and eco shops management <u>North/ South Wayanad Forest Development Agency:</u> - Federation of Vana Samrakshana Samithies (VSS) of North/South Wayanad Division, for effective forest and natural ecosystem conservation through participatory process. <u>Wayanad Wildlife Sanctuary Forest Development Agency:</u> - Federation of Eco Development Committees (EDC) of Wayanad wildlife Division, for effective forest and natural ecosystem conservation through participatory process
Environmental and Social Safeguard	
National Green Tribunal (NGT) From 2010	Role: - To be responsible for jurisdiction for all civil cases where a substantial question relating to environment (including enforcement of legal rights) - To handle multi-disciplinary issues relating to environmental protection, forest conservation and other natural resources - To provide relief and compensation for damages to persons and property.

¹⁸ Interview with Wayanad District Coordinator (2014), Kerala Mahila Samakiya Society

Institutions	Description on Roles and Activities / Budget / Related Agencies
State Level Environment Impact Assessment Authority (SEIAA)	Role: To appraise environmental clearance process for Category B. Chairman and a Member Secretary: Nominated by GoK Secretariat: The Directorate of Secretariat Environment & Climate Change
Kerala State Pollution Control Board (KSPCB)	Role: To engage enforcement, advisory, monitoring, research, and public awareness for water and air environment under Air (Prevention and Control of Pollution) Act, 1981, the Environment Act, 1986 and various other related rules and notifications. Supervising Department: Department of Health & Family Welfare
Kerala State Biodiversity Board (KSBB)	Role: To conserve and protect of the agro, plant and fish diversity of the state. Organizational Form: autonomous body under state Environment Department
Education	
Kerala State Literacy Mission	Role: To provide literacy programmes that leads to the certification equivalent to that of formal education. Activities in Wayanad: 68 centres are established and 72 Promoters are functioning, and 1,540 learners are registered. Annual Budget: Rs. 800,000 in 2013-14

Source: Compiled by the JICA Survey Team based on the web sites, hearing survey

Several NGOs are actively implementing community development activities including skills training, livelihood improvement, education, farming, agriculture marketing, etc. Some of the key NGOs are summarized in the following tables.

Key NGOs in Wayanad

NGO	Area of Expertise/ Achievements in Wayanad
SHREYAS Social Service Centre	Area of Expertise: Formation of community level organization, natural resource management, agriculture development, animal husbandry, tribal development, entrepreneurship development, gender, community health insurance initiative, educational support scheme, and human resource development Achievements in Wayanad: <ul style="list-style-type: none"> - Entrepreneurship interventions programmes through JLGs and SHGS - Tribal development programmes assisted by NABARD, and CARITAS INDIA - Training on food processing and promotion of organic farming, and reviving the deserted paddy fields through collective farming - Formation of 678 SHGs of 15-20 members and monthly monitoring of the SHGs through a four-tier system: Central Office → Regional Office (4) → Federations (36) → SHGs. The Federation prepares Action Plans
Wayanad Social Service Societies (WSSS)	Area of Expertise: Formation of community level organization, tribal development, agriculture, gender development through training, research and documentation, and consultancy. Achievements in Wayanad: <ul style="list-style-type: none"> - Formation of SHGs, JLGs and federations and of linking for micro-finance - Implementation of NABARD assisted programmes of Tribal Development Fund - Skill training for rural school dropout - Community radio broadcast-mattoli - Training assistance for JLGs -micro enterprise development programme - Organic agriculture programmes for 8038 farmers of 9,000 ha, Certification, Marketing. Formed 1,500 women SHGs and 1,000 tribal farmers participated in the programmes. A processing plant, products collection centre, and etc. were established under the programmes.

Source: JICA Survey Team (2014)

2.2.2 Implementing Agency (AHADS-CCPRM)**(1) Organizational Structure and Staff**

According to the GO⁷, AHADS-CCPRM consists of four authorities; Governing Body, Executive Committee, Project Advisory Committee, and Executive Director. The roles and members of the authorities are as follows.

Authorities of AHADS-CCPRM

Authorities	Role and Members																
Governing Body	<p>Role: To make decision for the budget plan approval and the organizational direction</p> <p>Members: Composed of 28 members. The composition of the members are from the following designation and affiliation are as in the table below</p> <table><tr><td>Chief Minister (Chairman)</td></tr><tr><td>Minister of Rural Development Dep. (Vice Chairman)</td></tr><tr><td>Principle Secretary to Government, Local Self Government Dep.</td></tr><tr><td>Representatives of the departments of Finance, SC/ST Development, Planning</td></tr><tr><td>Not below the rank of Joint Secretary to Government</td></tr><tr><td>Representative of the District / Block / Grama Panchayat Presidents</td></tr><tr><td>Directors of Research institute, university etc.</td></tr><tr><td>Experts on Tribal affairs, Rural Development, and Human resource management</td></tr></table>	Chief Minister (Chairman)	Minister of Rural Development Dep. (Vice Chairman)	Principle Secretary to Government, Local Self Government Dep.	Representatives of the departments of Finance, SC/ST Development, Planning	Not below the rank of Joint Secretary to Government	Representative of the District / Block / Grama Panchayat Presidents	Directors of Research institute, university etc.	Experts on Tribal affairs, Rural Development, and Human resource management								
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Representative of the District / Block / Grama Panchayat Presidents																	
Directors of Research institute, university etc.																	
Experts on Tribal affairs, Rural Development, and Human resource management																	
Executive Committee	<p>Role: To be responsible for administration preparing work plan, annual report, and audited statement etc to submit to the Governing Body, and for bank account operation, and for staff employment etc.</p> <p>Members: Composed of eight members as follows;</p> <table><tr><td>1</td><td>Principle Secretary to Government, Local Self Government Department (Chairman)</td></tr><tr><td>2</td><td>Commissioner for Rural Development (Member)</td></tr><tr><td>3</td><td>Representative of Finance Department, not below the rank of Joint Secretary to Government (Member)</td></tr><tr><td>4</td><td>Representative of SC/ST Development Department, not below the rank of Joint Secretary to Government (Member)</td></tr><tr><td>5</td><td>Representative of Planning Department, not below the rank of Joint Secretary to Government (Member)</td></tr><tr><td>6</td><td>Representative of Forest Department, not below the rank of Conservator of Forests (Member)</td></tr><tr><td>7</td><td>Executive Director, Kudumbasree (Member)</td></tr><tr><td>8</td><td>Executive Director, AHADS-CCPRM (Member Secretary)</td></tr></table>	1	Principle Secretary to Government, Local Self Government Department (Chairman)	2	Commissioner for Rural Development (Member)	3	Representative of Finance Department, not below the rank of Joint Secretary to Government (Member)	4	Representative of SC/ST Development Department, not below the rank of Joint Secretary to Government (Member)	5	Representative of Planning Department, not below the rank of Joint Secretary to Government (Member)	6	Representative of Forest Department, not below the rank of Conservator of Forests (Member)	7	Executive Director, Kudumbasree (Member)	8	Executive Director, AHADS-CCPRM (Member Secretary)
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6	Representative of Forest Department, not below the rank of Conservator of Forests (Member)																
7	Executive Director, Kudumbasree (Member)																
8	Executive Director, AHADS-CCPRM (Member Secretary)																
Project Advisory Committee	<p>Role: To assist Executive Committee, to prepare annual plans, and to monitor the progress of the project through field visits and provide useful advice for the proper execution of the work.</p> <p>Members: To be formed with appropriate number / level of the members for each project in conformity with projects.</p>																
Executive Director	<p>Role: To make decision for day to day effective operations as the head of the society.</p>																

Source: Compiled by JICA Survey Team based on AHADS-CCPRM Rules⁷, 2013.

Currently, under Executive Director, only one Deputy Executive Director belongs to AHADS-CCPRM.

(2) Current Activity

AHADS-CCPRM has implemented several activities in Attappady Area after AWCECOP. Some of the activities are summarized in the following table.

Activities Recently implemented by AHADS / AHADS-CCPRM

No.	Project Name / Implementation Period /	Fund Source / Total Project Budget	Objectives / Main Activities and Outputs	Remark
1 ¹⁹	House construction in the selected hamlet From 2013	Departments of SC, ST Development Total budget: Rs.1,389,000/-	Outputs: Construction of five houses in Nellipathy hamlet in Attapady	The proposal from AHADS on this project was approved by a State level working group
2*	House Construction in Tribal Hamlet in Attappady Block From 2012 to 2014	71 houses from Zilla Panchayats 21 houses from Tribal Development Department Total budget: Rs. 20 billion /-	Activities and Outputs: AHADS employed daily basis experts, who were supporting consultancy staffs of AHADS, to monitor the progress of the houses construction, and released fund based on the construction progress	Tribal people requested the government to build similar houses built in AWCECOP. Zilla Panchayats selected two hamlets; Kunanchala and Nillikuzhy
3 ²⁰	Training on participatory watershed management and tribal development From 2012	State Institute of Rural Development (SIRD) under Mahatma Gandhi NREGS, Total budget: Rs. 2,241,400/-	Objective: To promote participatory natural resource management with utilizing the experience of AHADS Activities: To hold three days training seminars on participatory watershed management at AHADS to 1200 of the trainees of elected Mahatma Gandhi NREGS officers (block development officers, tribal extension officers, and people's institutions etc.) as a supporting organization for SIRD	Suggested by Minister for Rural Development to utilize infrastructure and experiences of AHADS for the training on natural resources conservation

Source: Compiled by JICA Survey Team based on G.O.s, letters and Proceedings

Note*: Compiled by JICA Survey Team based on the interview conducted with staff of AHADS-CCPRM

In short, most of the projects implemented by AHADS after AWCECOP were based on the request from the Government of the State or District, and the scopes of the projects focus on house construction for the tribes and training on the natural resources conservation and management with making the best use of the knowledge, infrastructures and experience from AWCECOP.

¹⁹ Proceedings of District Collector, Palakkad, No. LRG6-2012/74152/9, Tribal welfare- construction of houses in Nellipathy hamlet-fund released-orders issued-reg., issued on the 18th March 2013

²⁰ G.O. No.919/2014/LSGD, Conducting training programmes on Participatory Watershed Management for officials and elected members of 3 tier Panchayats through AHADS-Sanction accorded, issued from LSGD to AHADS and other stakeholders on the 3rd October 2013,
Minutes of the joint meeting of Mahatma Gandhi NREGA State Mission with AHADS and SIRD on imparting training to the Stakeholders of MGNREGA, on 10.12.2013, Letter No.11/B/2014/SIRD, sent from the Director of SIRD

Chapter 3 Relevant Development Plans, Policies and Budgets

3.1 Development Plans at Various Levels

3.1.1 National 12th Five-Year Plan

Planning Commission of GoI prepares five-year plans to streamline the national development activities. The latest five-year development plan, “12th Five-Year plan (2012-2017)” proposes the national growth indicators as follows:

- 9 % of GDP growth
- 4 % of Agriculture growth
- 10 % of manufacturing growth
- 10 % of Below Poverty Line (BPL) decline rate

In order to achieve inclusive growth, the plan emphasizes poverty reduction. The relevant plans in the 12th plan are summarized as follows.

Summary of the Relevant Plan in the 12th Five-Year Plan

<p><Sector: Poverty Reduction and Employment Promotion> Target:</p> <ul style="list-style-type: none"> • 10% of Below Poverty Line (BPL) decline rate • 50 million new work opportunities in the non-farm sector and provide skill certification to equivalent numbers <p>Approach: To achieve the targets through development in each sector</p>
<p>< Sector: Rural Development > Target:</p> <ul style="list-style-type: none"> • Connect all villages with all-weather roads • Ensure 50% of rural population has access to piped drinking water supply • Reduce infant mortality rate to 25 per 1,000 live births and under-nutrition among children aged 0–3 years • Eliminate gender and social gap in school enrolment <p>Approach:</p> <ul style="list-style-type: none"> • Road construction to smaller villages especially for the tribal populated areas under Pradhan Mantri Gram Sadak Yojana (PMGSY) and maintenance of the roads • Improvement of access to safe drinking water • Strengthening rural health infrastructure • Improvement of access to the school • Promote Mahila Kisan Sashaktikaran Pariyojana (MKSP) for social welfare to rural women • Enhancement for organizations such as Self Help Groups to easy access to financial credit systems • Promote and amelioration of major livelihood improvement programs: <ol style="list-style-type: none"> (1) Mahatma Gandhi National Rural Employment Guarantee Act (2) National Rural Livelihood Mission (NRLM) (3) Indira Awas Yojana (IAY) (4) National Rural Drinking Water Programme (NRDP) (5) Integrated Watershed Development Programme (6) Pradhan Mantri Gramin Sadak Yojana (PMGSY) (7) Rural electrification and Rajiv Gandhi Gramin Vidyutikaran Yojana (RGGVY)
<p>< Sector: Sustainable Management of Natural Resources > Target: Increase green cover (as measured by satellite imagery) by one million ha every year</p> <p>Approach:</p> <ul style="list-style-type: none"> • Water resource management; maintenance of surface water bodies, ground water management, aquifer mapping and management • Environment management; improving forest cover, biodiversity conservation, and community involvement in forest management
<p>< Sector: Agriculture > Target: Productivity increase by 4.0-4.5%</p> <p>Approach: Balanced soil nutrient management and improvement of marketing and logistics</p>

Source: Compiled by the JICA Survey Team based on 12th Five Year Plan (2012-2017), Planning Commission, Government of India

3.1.2 State Annual Plan 2013-2014

In accordance with the national Five-Year Plan, GoK prepares a State Annual Plan. The State Annual Plan Proposal for 2013-2014 has been drafted by the Kerala State Planning Board. The relevant plans in each sector are summarized as follows.

Relevant Plans in the State Annual Plan 2013-2014

<p>Rural Development (Budget Rs.61.7 billion)</p> <ul style="list-style-type: none"> • Indira Awas Yojana (IAY) for 31,000 house construction • Mahatma Gandhi National Rural Employment Guarantee Program (MGNREG) for increasing opportunities of employment • National Rural Livelihoods Mission (NRLM) for organization and capacity building by providing the opportunity of wage employment • Rural Infrastructure Development Fund (RIDF) for rural roads, buildings, and other infrastructure development • PMGSY program for road construction to access to the rural areas • Integrated Wasteland Development Programme (IWDP) • Kudumbasree for organization, social development, micro finance and micro enterprise activity • Suchitwa Mission in Kerala for improving sanitation system • Comprehensive hill area development projects of 4 districts including Wayanad, whose components (check dam construction, agriculture development, SHG support for self employment activities, and natural resources management) are to be implemented by Hill Area Development Agency (HADA)
<p>SC, ST Development and Welfare (Budget SC: Rs.10.3 million, ST: Rs.46.1 billion)</p> <ul style="list-style-type: none"> • Land to around 5,000 landless families for construction of houses • House to the houseless and support completion of houses under construction and innovation of dilapidated houses • Contribution to SC/ST federation and SC/ST cooperation to support their activity • Development program for vulnerable communities among SC through assistance for purchase of 5 cents of land and for the construction of house as per the government norm, providing infrastructure, connectivity, communication facilities, education treatment, and improvement of infrastructure in colonies • To sponsor establishing micro enterprises under Swarnjayanthi Gram Swarozgar Yojana (SGSY) • Resettlement of landless tribes • Allocate Rs.10 million to each hamlet to solve hamlet specific problems, which are not supported by other schemes, under Hamlet Development Scheme • Special package for Integrated Sustainable Development of Scheduled Tribe Population in identified 14 locations / settlements based on the survey by ST Department, according to the convergence plan drafted by Convergence Committee which consists of related departments
<p>Agriculture (Budget Rs.14 billion)</p> <ul style="list-style-type: none"> • Production and distribution of better quality plants and development of products through strengthening agricultural extension • Increase of Agro Service Centres and service delivery • Veterinary extension and strengthening of veterinary service through related infrastructure development

Source: Compiled by the JICA Survey Team based on Annual Plan Proposal (2012-2017), Planning Board, the State Government of Kerala

3.1.3 District Development Plan 2012-2013

According to the 2012-13 Development Plan of the Wayanad District, the reduction of the agriculture land due to land conversion, climate change, and man- animal conflict was identified as one of the urgent issues. The plan placed an emphasis on poverty alleviation interventions such as development of tribal communities, women and children, improvement of health, drinking water supply and hygiene. Related sector wise plans are as summarised in the table below.

Sector Wise Developmental Plan of Wayanad District (2012-13)

Sector	Description of Developmental Plan
Agriculture	<ul style="list-style-type: none"> - Increase conversion of waste lands to agricultural land - Promote the organic farming and control the usage of pesticides - Implement soil and water conservation activities
Animal Protection	<ul style="list-style-type: none"> - Increase the cattle in the district, and promote cattle husbandry for meat - Improve animal health
Poverty Reduction	<ul style="list-style-type: none"> - Increase employment opportunities and skills development training - Provide bank loans for BPL
Scheduled Caste	<ul style="list-style-type: none"> - Provide basic facilities - Provide machineries and equipments, etc. for agriculture - Provide skills training for educated people - Provide care for pregnant women and infants
Scheduled Tribes	<ul style="list-style-type: none"> - Create employment opportunities and provide daily income sources - Provide better health facilities and more opportunities for education, - Support people become free from addiction of alcohol, cigarettes and drugs
Women and Children	<ul style="list-style-type: none"> - Support backward women financially through bank loan, etc. - Enhance welfare of pregnant women and children, widow and senior citizens - Ensure proper functioning of government hospitals for women and children - Create awareness for the women's problems and abuse
Health	<ul style="list-style-type: none"> - Provide basic medical facilities for all - Enhance welfare for vulnerable communities and other backward groups - Create awareness for health insurance programme
Drinking Water	<ul style="list-style-type: none"> - Protect all the existing water sources and pollution control and awareness creation - Provide drinking water to all and create rain water harvesting
Welfare	<ul style="list-style-type: none"> - Provide basic facilities for better education - Improve hygiene in schools
Public works	<ul style="list-style-type: none"> - Protect existing roads and buildings - Constructing new roads to the tribal colonies and provide basic facilities
Housing	<ul style="list-style-type: none"> - Build new houses for the needed people with the help from Panchayat

Source: District Development Plan (2012-13) Translated and compiled by JICA Survey Team

3.2 Other Relevant Policies and Plans

Other relevant policies and plans are summarized by sector wise as below.

3.2.1 Agriculture

Comprehensive District Agriculture Plan (CDAP) 2013 was drafted by the Principal Agricultural Officer of Wayanad in consultation with peoples' representatives from the Block and Grama Panchayats. This plan details the focus area and the planned activities for the next year to ensure the overall development plan of the agriculture sector in the Wayanad District. The important aspects described in the policy are summarized as below.

Summary of Kerala Draft Agriculture Policy 2013

Topic	Description
Marketing	<ul style="list-style-type: none"> - Provision of efficient infrastructure facilities for sale, retail, assembly markets and storage in all major production centres, which are to be managed by producer companies. - Promotion of value addition and processing.
Livestock development	<ul style="list-style-type: none"> - Create a mechanism to monitor, evaluate and upgrade the livestock population of the state. - Ensure that all livestock populations are free from contagious diseases by universal vaccination. - Improve cross breeding programs and use low yielding cattle as foster mothers for embryo transfer technology. - Encourage the rearing of indigenous and native breeds of cattle as a conservation measure. - Focus primarily on improving the health and productivity of the animals (both male and female) by ensuring adequate nutrition.

Topic	Description
Dairy	<ul style="list-style-type: none"> - Provide financial assistance to farmers for purchase of milch animals, insurance facilities for both of farmers and animals, subsidized power supply and financial assistance to run milk chilling plants. - Create an organized structure that includes all dairy farmers of the state and to promote the formation of more milk cooperative societies.

Source – Government of Kerala, Draft Agricultural Development Policy, 2013

3.2.2 Forestry

(1) National Forest Policy 1988

National Forest Policy 1988 gives overall directions in forest regime and administration. The key features are highlighted in the following table.

Key Features of the National Forest Policy 1988

Key Features of Forest Management <ul style="list-style-type: none"> - Protect existing forests and forest lands on hill slopes, catchment area etc. - Maintain the forest to have at minimum scale one-third of the total land area of the country under the forest or tree cover and two-third of the area in the hills and mountain regions - Encourage social forestry to plant trees on the public land and village community land. - Discourage conversion of high productive agricultural lands to forestry. - Protect and extend national parks, sanctuaries, biosphere reserves and other protected areas for bio diversity conservation by taking into account of wild life conservation on development of forest management plans. - Promote afforestation for fuel wood production to meet the requirement of the rural people - Enhance minor forest production by tribal people and other communities residing in and around the forests with regarding to generation of employment and income through promoting sustainable NTFP collection.
Key Features of Production <ul style="list-style-type: none"> - Sustain supply of raw materials for forest-based industry - Conserve natural forest, and prohibit conversion of natural forest to plantation - Enhance farmers' tree planting and growing - Abolish free supply of the forest production to industry

Source: Compiled by the JICA Survey Team (2014) based on the related acts and rules

(2) Kerala State Forest Policy 2009

In accordance with the National Forest Policy, 1988, the Kerala State Forest Policy, 2009 was developed. The key features are summarized in the following table.

Key Features of the Kerala State Forest Policy, 2009

Scope and Vision: <ul style="list-style-type: none"> - Maintain 75% of the total land area to be covered by trees and plants. - Secure the financial basis of the people who are residing in the forest. - Conduct reforestation and forest protection program together with ensuring the livelihoods of tribal people and other forest dependants
Key Features: <ul style="list-style-type: none"> - Natural forest protection with increasing productivity through proper management and provision of livelihood means to the tribal people who are dependent on forest. - Eco tourism promotion to make people aware on the importance of forest protection and learn skills to increase the income depending on the forests. - To support the tribal people and other forest dwelling communities in the forests - Other contents of the policy contains the followings: 1) Protected Area, 2) Plantation, 3) Other geographical areas, 4) Social forestry and extension, 5) Special schemes, 6) Wood industry, 7) Forest awareness programs, 8) Human resource development, 9) Land lease, 10) Reporting and Evaluation, 11) Research

Source: Compiled by the JICA Survey Team (2014) based on the related acts and rules

(3) State Biodiversity Strategy and Action Plan for Kerala (SBSAP) 2005

The GoK has formed State Biodiversity Strategy and Action Plan for Kerala (SBSAP) in 2005 to frame the issues and actions to be taken in addressing biodiversity conservation in Kerala. Major contents are summarized in the following table.

State Biodiversity Strategy and Action Plan for Kerala 2005

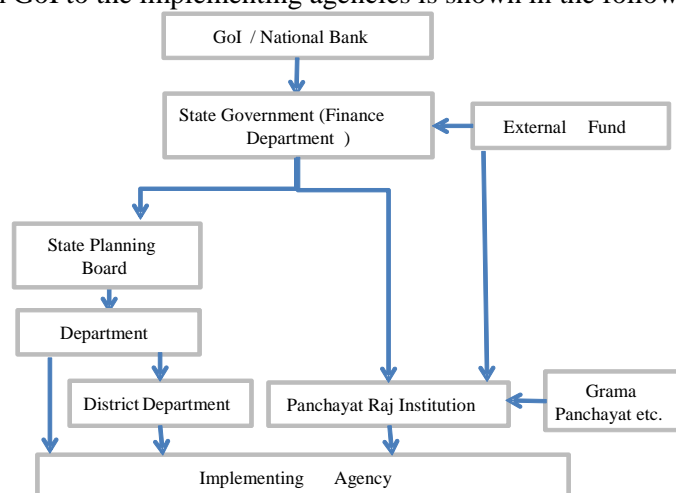
Major contents
Land Conservation ➤ Issues : Land degradation caused by destruction of natural vegetation, inappropriate management practices of forests and revenue land, non-sustainable developmental activities, introduction of exotic species. ➤ Action: Create general information on site-specific land use planning, create awareness regarding sustainable uses of land resources, increase vegetation cover and initiate action for reduction of soil erosion
Wild Animals and Plants ➤ Issues : Lack of adequate and comprehensive information on wild animals and plants caused by insufficient comprehensive studies, lack of practical motivation and specialists ➤ Action : Conduct immediately to prepare inventories on different animal groups and wild plant groups, establish the centres of taxonomic studies for various groups of animals, and consolidate all available data
Wild Animals ➤ Issues : Man-wildlife conflicts in and around Protected Areas ➤ Action: Conduct periodic meetings, workshops in vulnerable areas to increase the awareness of people and to reduce tense situations, improve core areas in terms of habitat management for wild animals so as to control their movement to the fringe communities areas in search of their food
Wild Plants ➤ Issues : Loss of plant diversity due to excessive exploitation from the wild ➤ Action: Gather details on the availability and growing stock of species, Regulate the frame to check further depletion of natural population and execute it effectively, Promote regeneration, sustainable utilization and research for alternative source species, Identify wild plant species and their habitats to require conservation actions, Standardize protocols for the conservation of endangered species and their natural habitats.

Source: Compiled by the JICA Survey Team (2014) based on the related acts and rules

3.3 Development Budget

3.3.1 Fund Flow

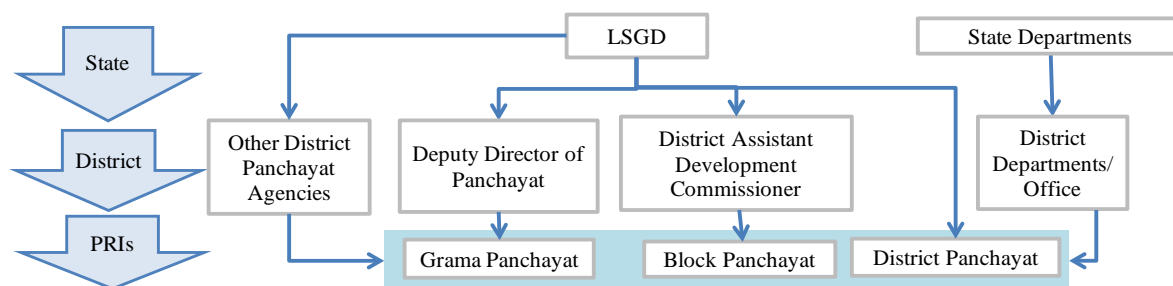
The budget flow from GoI to the implementing agencies is shown in the following figure.



Development Fund Flow from the GoI to the Implementing Agencies

Source: JICA Survey Team (2014)

The fund flow from the State to Panchayat Raj Institutions (PRIs) is shown in the following figure.



Development Fund Flow from the State level to the Panchayat Raj Institutions (PRIs)

Source: JICA Survey Team (2014)

The fund from Local Self Government Department (LSGD) is transferred to PRIs through District governmental agencies. The funds from the State Departments are transferred to PRIs through District level offices. As described in the figures above, PRIs has several fund sources summarized as follows:

Summary of the Various Fund Sources and Utilization

Fund Type and Source	Utilization
Own Fund from Income from the assets owned by Grama Panchayat	<ul style="list-style-type: none"> - Be expended for those projects which will not earn immediate financial returns - Mandatory projects - Public service commission coaching - Cultural activities
Plan Fund from Central government and State government plan	<ul style="list-style-type: none"> - 10% of plan fund for Women Welfare projects - 3% for old age and youth welfare activities - Any development projects coming under agriculture, infrastructure, service, etc sectors
Maintenance Grant from state government	<ul style="list-style-type: none"> - Road- Only for construction and maintenance of roads - Non Road- Clearing electricity bill, water bill, etc. of Grama Panchayat and related institutions, electricity line extension, electric wiring of schools, Maintenance of schools, Primary Health Centre (PHC), etc.
General Purpose Grant from state government	<ul style="list-style-type: none"> - Office administration - Salary of Panchayat officials, etc.
Externally fund	<ul style="list-style-type: none"> - Depends on the funded projects.

Source: JICA Survey Team (2014)

3.3.2 Budget Plan

(1) State Budget Plan

According to Budget Speech 2014-15, the annual plan 2014-15 outlays total about Rs. 2,000 billion; accounting for 27% for rural development, 17% for industries and 16% for agriculture and health. This shows that substantial budget is allocated to rural development in the State budget plan for 2014-15. The Budget Speech 2014-15 lists priority programmes in its first section, and other programmes are planned in the second section, where the ones related to the Project are shown below.

Priority Programs in the State Budget Plan 2014-15

Priority Programmes	Budget (million Rs.)
Income guarantee and price fixation right to farmers	500
Health insurance to farmers having land below two hectares	500
Special incentives for women entrepreneurship programs	100
Value added products from agricultural wastes	10
Projects for increasing employment opportunities and economic growth	550
Financial support for agriculture including loan, technical empowerment, and marketing	Not mentioned
Encouragement to small scale food processing industries	Not mentioned
Development of Kerala brand products	Not mentioned

Other relevant Planned Programmes	Budget (million Rs.)
SARANYA (A name of a self employment scheme for the destitute women – widows, deserted women and unmarried mothers)	140
Integrated sustainable development of ST	1,500
Subsidy for house construction for SC	1,500
Subsidy to landless SC for land purchase	1,000
Enhancement of employment opportunity for the ST	20
Welfare activities for other backward classes	800
Welfare activities for minorities	150

Source: Compiled by JICA Survey Team based on Kerala State Budget Speech 2014-15

(2) District Budget Plan

The district development plan 2012-13 shows the budget allocation in FY 2012-13. The total budget allocated was Rs. 446 million. The summary of the sector wise district budget plan is as follows. Block Panchayat, Grama Panchayat budget plan is summarized in **Annex 3 in Volume III**.

Summary of the Related Sector Wise District Budget Plan in FY 2012-13

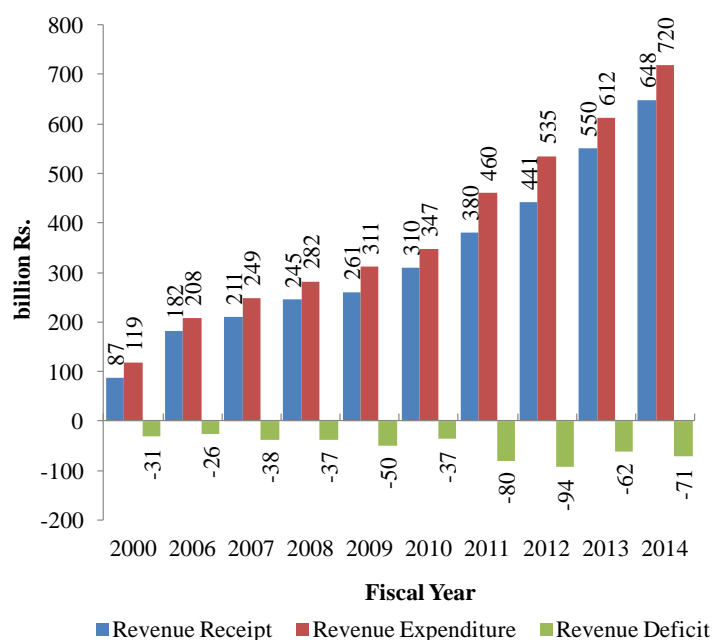
Sector	Allocation %	Budget (million Rs.)
Transportation	29.97	88.8
Shelter	15.97	47.3
Drinking water	14.73	43.6
Education	12.81	38.0

Source: Compiled by JICA Survey Team based on District Development Plan (2012-13)

3.3.3 State Fiscal Status

(1) Overall of Revenue Account, Revenue Receipts and Fiscal Deficit

The trend of revenue account for the past 13 years and estimated revenue account for 2014-2015 are shown in the following figure. It shows that the revenue receipt of the State steadily increased year by year from 2000 to 2013, in parallel with the revenue deficit.



Trend of Overall Revenue Account of the State of Kerala

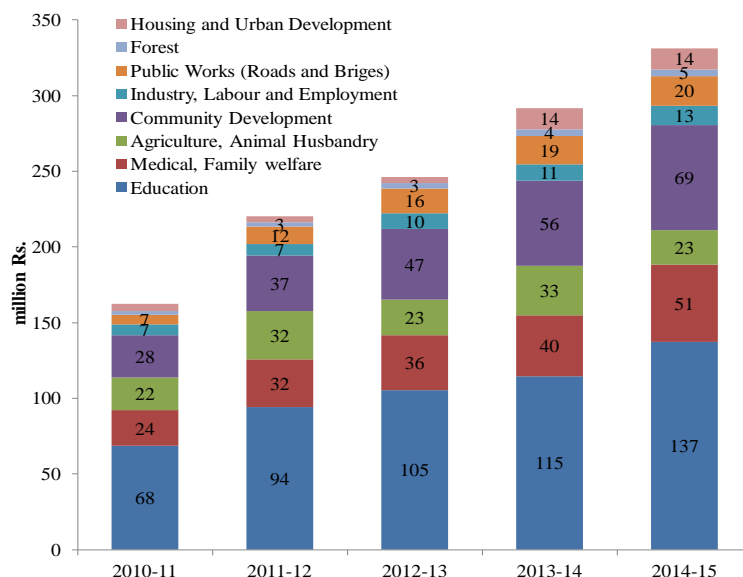
Source: Budget in Brief 2014-15, p.A-8, Ministry of Finance, GoK

Note: The prices of 2013 are based on the revenue estimation, and those of 2014 are based on the budget estimation.

Based on the Budget in Brief 2014-15, from 2008 to 2013, around 15% of the total revenue receipts is from GoI as a grant, 20% from Non-tax revenue, and 65% from Taxes and Duties of the State. The share of the revenue receipts of the central taxes in GoK is less than the average of the central tax to all the states, which is 22%. GoK constantly has more than 3% of fiscal deficit against GSDP for the past 5 years. This means that GoK had chronic fiscal deficit in the past 5 years.

(2) Revenue Expenditure

The share of the expenditure from 2010 is shown in the following figure.



Share of the Revenue Expenditure for Development of the State of Kerala

Source: Compiled by the JICA Survey Team based on Budget in Brief 2014-15

Note: The prices of 2013 are based on the revenue estimation, and those of 2014 are base on the budget estimation.

In the past four years, the expenditure for community development has gradually increased. In 2014, 20 % of the total expenditure was planned for community development, which suggests that at the state level, community development is one of the important sub sectors behind education in the development sector.

Chapter 4 On-going Programmes, Projects, and Schemes

The relevant on-going programmes are summarized in sector wise in the following sections, which show that GoK has provided various programs and schemes for rural community development and poverty reduction supporting BPL, ST, SC and Other Backward Classes people (OBC). However, the poverty situation still remains important issues at both the national and the state levels. This implies that there is a necessity for appropriate and effective utilization of these schemes. The other relevant on-going programmes are given in the **Annex 1 in Volume III**.

4.1 Programmes for Livelihood Improvement

Programmes for Livelihood Improvement

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)¹

- Started: 2005
- Covered Area: All over the rural areas
- Implementing Agency: Department of Rural Development (DoRD)
- Fund Source: Ministry of Rural Development (MoRD), GoI
- Budget: Rs. 141 billion in 2012-2013 in entire India, Rs. 4 billion in Kerala in 2014-15
- Beneficiary: Households in rural areas

Objective

Based on the Indian Act of MGNREGA, to enhance the livelihood security of the households in rural areas

Approach

To provide at least 100 days per year of guaranteed wage employment to every registered household. Maximum five persons per registered household, who are willing to do unskilled manual work, can take part in the works through Grama Panchayat

Status in Wyanad

Details are found in **Annex 4 in Vol. III**.

Total Number of Households Registered with MGNREGA: 122,937 households

National Rural Livelihood Mission (NRLM)²

- Period: 2011 - 2017
- Covered Area: Rural Area
- Implementing Agency : Department of Rural Development (DoRD), Kudumbasree
- Fund Source: Ministry of Rural Development (MoRD), GoI with financial support from World Bank
- Budget: Rs.2.5 billion in Kerala in 2014-15
- Beneficiary: SHG
- Beneficiary Selection Criteria: The interested rural BPL youth.
At least one member from each identified rural poor household, preferably a woman under the Self Help Group (SHG) network
Participatory vulnerability assessment and ranking to identify the poorest and the most vulnerable among the BPL households.

Objective

- To reduce poverty by promoting diversified and gainful self-employment and wage employment opportunities for sustainable increase in incomes
- Integrated program to promote establishment of micro-enterprises

Activity

- Mobilizing all rural, poor households into effective Self Help Groups (SHGs) and their federations
- Enhancing access of the rural poor to credit and other financial, technical and marketing services
- Building capacities such as business planning, marketing, skills training
- Improving the delivery of social and economic support services to the poor

Financial Plan and Expenditure of NRLM (Annex 1 in Vol. III)

Financial data by budget head are given in the table below. Further details are found in **Annex 1 in Vol. III**.

¹ <http://www.nrega.nic.in/netnrega/home.aspx> (Accessed on the 18th June 2014)

² <http://rural.nic.in/sites/downloads/latest/NRLM%20Procurement%20Manual.pdf>, <http://bihan.gov.in/> (Accessed on the 18th June 2014)

Total Budget for 2011- 17 and Distribution of Budget to Components in Kerala

Component	Budget (million Rs.)	%
Capacity Building & Skills Training	2,519.8	21.72%
Interest Subsidy	700.0	6.03%
Provision of Capital Subsidy	6,072.6	52.34%
Infrastructure & Marketing	1,006.5	8.68%
Skills & Placement Projects & Innovation	750.0	6.46%
Administrative Expenses	552.4	4.76%
Total	11,601.3	100.00%

Source: NRLM State Perspective Plan and Implementation Plan, Kudumbasree (2011).

Cumulative Expenditure of NRLM in Kerala ending March 2013

	Component	Spent Amount (Rs.)
1	Capacity Building and Skills Training	23,30,564
2	Capital Subsidy for Micro Enterprise Development	-
2.1	Corpus Fund	3,611,000
2.2	Micro Enterprise Livelihood activities	2,017,850
3	Infrastructure and Marketing	614,791
4	Administration and Other Expenditure	3,080,000
5	National Rural Livelihood Project	22,620
	Total	11,676,825

Source: Data provided by Kudumbasree District Mission Wayanad (2014)

Kudumbasree (Kerala State Poverty Eradication Mission)

- Started: 1998
- Coverage area: Kerala State
- Formed by Department of Local Self Government of Kerala (then the Local Administration Department).

Objective:

To eradicate poverty in Kerala

Approach:

Holistic approach to poverty eradication and interventions are to cater for the needs of different social groups

Activities:

Promotes formation of Neighborhood Groups (NHGs) for financial security through internal savings and credit. Provides technical and financial support for income generation activities. Implements a special programmes for the destitute women.

Activities:

Additional details of achievements of Kudumbasree in Wayanad district are given in **Annex 4 in Vol. III**. A brief overview is given as below:

Number of NHGs: 8,965 NHGs/ 111,121 households

Number of JLGs: 4,018 JLGs

Women Farmers supported by Kudumbasree under Mahila Kisaan Sashakuttikaran Programme: 23,694 persons

Beneficiaries of Ashraya (a scheme for the destitute): 1,804 households

Sampoorna Gramin Rozgar Yojana (SGRY)

- Started: 2011
- Covered Area: Rural Area
- Implementing Agency: DoRD, LSGD
- Fund Source: GoI
- Beneficiary: BPL in rural area

Objective:

To provide employment and food to people in rural areas who lived below the poverty line

Activity:

To provide gainful employment for the rural poor by merging the Employment Assurance Scheme (EAS) and Jawahar Gram Samridhi Yojana (JGSY); Employment program of unemployed people in rural areas

Training for Unemployed Tribal People

- Started: 2014
- Covered Area: Wayanad
- Fund Source: Government of Japan (Grant Assistance for Grassroots Projects)
- Implementation Agency: SHREYAS Social Service Centre (a Wayanad based NGO)

Activity:

Nine kinds of vocational training to 200 unemployed tribal women and youth at the training centre built with the fund from Government of Japan.

Source: Compiled by JICA Survey Team (2014) based on the related web sites and economic review, 2013, Kerala State Planning Board

4.2 Programmes for Gender

Programmes for Gender

Mahila Samakya

- Started: 1988
- Implementation Agency: General Education Department, GoK
- Fund Source: Ministry of Human Resource Development, GoI
- Beneficiary: Women

Objective:

To empower and educate women

Activity:

Protect rights for women, training on literature and special skill

In Wayanad, establishment of a shelter for women who are affected by domestic violence, is in progress.

Currently covered block: Mananthavady

Formed Women's Committee: 70

Formed Adolescent groups: 60

Mahila Shikshan Kendras (Learning Centres for Women): 1

Self Employment Scheme for the Woman (SHARANYA)

- Started: 2010
- Covered Area: Entire Kerala
- Implementation Agency: Employment Department
- Fund Source: GoK
- Budget: Rs. 140 million in 2014-15
- Beneficiary: Unemployed widows, deserted/ divorced/ unmarried women and unwedded mothers

Objective:

To support the unemployed widows, deserted/ divorced/ unmarried women and unwedded mothers

Activity:

To provide financial assistance for self employment in a way of subsidy and interest free loan

Source: Compiled by JICA Survey Team (2014)

4.3 Programmes for SC/ST Development

Programmes for SC/ST Development

Scheme of Development of Particular Vulnerable Tribal Group (PVTG)	
<ul style="list-style-type: none"> - Started: 2012 - Fund Source: GoI - Budget: Rs.1.48 billion in Kerala - Beneficiary: - Funds Flow: Shown in figure to the right <p>Activity:</p> <ul style="list-style-type: none"> - Housing grant of Rs.350,000 for each houseless families - Supply of food grains: Rice- 25 kg, Grains- 2 kg, Sugar – 2 kg, Tea dust - Medical camps: one camp in each hamlet in two (2) months - Supply of medicine through mobile medical units as required - Special Anganwadis <p>Beneficiary in Wayanad district: Kattunaikka households in the BPL list</p>	<pre> graph TD GoI[GoI] --> GoK[GoK ST Development Department] GoK --> ProjectOffice[Project Office Kerala Institute of Research Training and Development Studies of Scheduled Castes and Tribes] ProjectOffice --> DistrictOffice[District Sectoral Office] ProjectOffice --> GovAgencies[Various Government Agencies (Implementing Agencies)] DistrictOffice --> Beneficiaries[Beneficiaries] </pre>
Special Package Scheme for Paniya Tribe	
<ul style="list-style-type: none"> - Started: 2012 - Fund Source: GoI - Budget: Rs.2 million in 2014-15 in Kerala - Beneficiary: Ladies and children of Paniya Tribe. 71 colonies with 3,410 families were selected by the integrated tribal development project officer in Wayanad. <p>Activity: Provide food for pregnant ladies and assistances for child dropouts</p>	

Source: Compiled by JICA Survey Team (2014)

4.4 Programmes for Agriculture Development

Programmes for Agriculture Development

Rashtriya Krishi Vikas Yojana (RKVY)	
<ul style="list-style-type: none"> - Covered Area: Whole India - Implementing Agency: Department of Agriculture/ Agricultural Office/ Panchayat - Fund Source: GoI (100% grant from GoI to the States) - Budget: Rs. 2,530 million in 2012-13 in Kerala - Beneficiary: Farmers <p>Objective: Rejuvenation of the agriculture sector</p> <p>Activity of the Wayanad Package:</p> <ul style="list-style-type: none"> - Credit revolving fund for Joint Liability Group (JLG) - Vegetable promotion program - Minor irrigation - Pepper rehabilitation - Villager Resource and Counseling Centre - Training centre and Awareness programs - Support for soil ameliorants like Dolomite <p>Wayanad Package has also been introduced for the development of the dairy sector in the district at a total outlay of Rs. 30 million.</p>	

Source: Compiled by JICA Survey Team (2014)

4.5 Programmes for Social Welfare

Schemes for Welfare for Youth, Children and Women and the Benefits

Schemes / Institutions	Benefits
Social Security and Welfare to Unorganized Sectors	Welfare Fund Boards are established for the unorganised workers in 28 sectors including tailoring, khadi, auto rickshaw, fishermen, cashew, labour, etc. under the Labour and Rehabilitation Department, GoK
Social Justice Department Kerala Women's Commission	Women development programmes Conduct seminars and legal workshops and <i>adalath</i> (a sort of community court)
Kerala Women's Development Corporation	Self employed scheme for women, gender awareness, construction of toilets for ladies
Rajiv Gandhi Scheme for Empowerment of Adolescent Girls	Centrally supported scheme. Vocational training / skills development in tribal areas
Indira Gandhi Matritva Sahyog Yojana	Financial assistance for pregnant women of 19 years and above for the first two live births
Snehasparsham	For unwed mothers particularly from tribal communities in Wayanad District 1,000 Rs/ months will be given to all the unwed mothers 1,314 women benefited in 2012-13
Integrated Child Development Services	To improve nutritional status of women and children by providing an integrated package of services including pre-school, 33,115 Anganwadis have been established in Kerala
State Literacy Mission ³	Goal: To develop literacy skills of illiterates, school dropouts, etc Programme: i) Literacy programme, and ii) Income generating programme including vocation training, SHG formation and marketing Progress in Wayanad: i) total 1,146 persons have joined the literacy programme, ii) total 1,573 persons have joined the IGA programmes

Source: Economic Review 2013. Kerala State Planning Board.

4.6 Programmes for Rural Infrastructure

Programmes for Rural Infrastructure

Rural Infrastructure Development Fund (RIDF)
<ul style="list-style-type: none"> - Started: 1999 - Covered Area: All over the rural areas in India - Implementing Agency: User Department of GoK - Fund Source: NABARD - Budget: Rs. 15.8 hundred billions in 2012-2013, Rs. 4 billion in Kerala in 2014-15 - Beneficiary: Rural resident <p>Activity: To provide fund for rural infrastructure development</p>
Prime Minister's Gram Sadak Yojana (PMGSY)
<ul style="list-style-type: none"> - Covered Area: Entire India - Implementing Agency: DoRD - Fund Source: Ministry of Rural Development, GoI - Budget: Rs.7.5 billion in Kerala in 2014-15 - Beneficiary: Citizens in a remote areas <p>Activity: To provide good all-weather road connectivity to unconnected villages</p>

Source: Compiled by JICA Survey Team (2014) based on Economic Review 2013, Kerala State Planning Board

³ Literacymissionkerala.org (accessed in September 2014)

4.7 Programmes for Housing

Programmes for Housing

Indira Awas Yojana (IAY) <ul style="list-style-type: none"> - Started: 1985 - Covered Area: Rural Area - Implementing Agency: Rural Develop Department - Fund Source: Ministry of Rural Development, GoI - Budget: Rs.5.4 billion in 2014-2015 in Kerala - Beneficiary: Rural BPL people (Proportion of the beneficiaries in 2013 is ST 57%, SC 8.3%, Minority 15.5%, General 19%) - Beneficiary Selection Criteria: Priority for BPL, SC/ST households families /widows of personnel from defense services /paramilitary forces, killed in action, physically and mentally challenged persons/ families with physically/mentally challenged members <p>Activity:</p> <ul style="list-style-type: none"> - Financial assistance worth Rs.70,000/- in plain areas and Rs.75,000/- in difficult areas (high land area) for construction of houses. - The houses are allotted in the name of the woman or jointly between husband and wife. - The construction of the houses is the sole responsibility of the beneficiary. - Sanitary latrine and smokeless <i>chullah</i> (a cooking stove made of mud clay) are required to be constructed along with each IAY house for additional financial assistance. - For construction of 876 houses, Rs.394.63 million were sanctioned to be financed in 2012-13, and 23% of the sanctioned was completed as of end March 2014. Further details on the status are provided in Annex 4 in Vol. III.
EMS Total Housing Scheme <ul style="list-style-type: none"> - Started: 2009 - Covered Area: Entire Kerala - Implementation Agency: LSGD - Fund Source: GoK, loans from banks especially co-operative banks and others - Beneficiary: BPL landless and homeless households <p>Objective: No homeless household in the state</p> <p>Activity:</p> <ul style="list-style-type: none"> - Financial Assistance for BPL household of respective social groups are set to be Rs.75,000 for general category, Rs.100,000 for SC families, Rs.125,000 for ST families, Rs.100,000 for general category families having physically or mentally challenged persons and Rs.125,000 for Ashraya Yojana families. To support new house establishment, land acquisition, repairmen of old houses. - In Wayanad, 12,462 houses have been planned under this scheme. By 2014 March, 5,950 houses have been established with Rs. 704.6 million. Further details on the status are provided in Annex 4 in Vol. III.
Credit- cum- Subsidy Housing Scheme⁴ <ul style="list-style-type: none"> - Started: 1998 - Covered Area: Rural Area - Implementing Agency: The State Housing Board, State Housing Corporation, Commercial bank, Housing Finance Institution or the DRDA/District Panchayat, SIRD - Fund Source: Housing Finance Institutions and the State - Beneficiary: Rural households, who have an annual income of upto Rs. 32,000/- only, Priority in BPL people <p>Activity: To provide credit and subsidy for housing in rural areas with the people who are not covered by IAY scheme based on the National Housing and Habitat Policy 1998. More than 60 % of the funds to each state shall be utilized in financing the construction of SC/ ST.</p>

Source: Compiled by JICA Survey Team (2014)

⁴ <http://www.sird.kerala.gov.in/creditchum.htm> (Accessed on June 2014)

4.8 Programmes for Sanitation and Health

Programmes for Sanitation and Health

Kerala Rural Water Supply and Sanitation -Jalanidhi⁵ Phase I

- Implementation Period: 2000- 2008
- Implementing Agency: Kerala Rural Water and Sanitation Agency (KRWSA)
- Fund Source: World Bank
- Budget: US\$ 89.8 million (World Bank Share: US\$ 65.5 million/ State Share: US\$ 24.3 million)
- Beneficiaries: People in rural Panchayat where the ST population exceeds 5% of its total population.

Objective:

To improve the quality of water supply and sanitation service delivery, through cost recovery, and institutional reforms, by implementing new decentralized service models, and improving sector management capacity

Activity:

- To improve the operation of KRWSA, by promoting sanitation, hygiene strategy and framework through information, education, and communications development with capacity building on development of knowledge, skills, and management practices in technical, institutional, financial, and management aspects.
- To support community development and infrastructure building, ensuring mobilization and women's participation in a broad range of activities.
- The tribal development programme will address water scarcity, and capacity building
- To provide technical assistance to the GoK for comprehensive statewide planning, development and management aspects
- In Wayanad, 11 Grama Panchayats were selected for the project implementation.

Main Achievements of Jalanidhi I⁶:

- Small Water Supply Schemes: 3,694 units
- Comprehensive Schemes: 14 units
- New Latrine: 68,023 units
- Latrine conversion: 24,194 units
- Drainage: 68,362 m
- Rain Water Harvesting Structures: 13,304 units

⁵ World Bank

<http://www.worldbank.org/projects/P055454/kerala-rural-water-supply-environmental-sanitation-project?lang=en>
(Accessed on the 18th June 2014)

⁶ <http://www.jalanidhi.kerala.gov.in/index.php/project-details/jalanidhi-i-achievements.html>

Second Kerala Rural Water Supply and Sanitation –Jalanidhi II⁷

- Implementation Period: From 2010 to 2017
- Covered Area: 7 Grama Panchayats in Idikki District and 14 Panchayat in Wayanad
- Implementing Agency: Kerala Rural Water and Sanitation Agency (KRWSA)
- Fund Source: World Bank
- Budget: US\$ 222 million (75% from GoK, 15% from Grama Panchayats, 10% from the beneficiaries by cash or in the form of labor)
- Beneficiaries: People in rural Panchayat where ST population is exceeding 5% of its population
- Target area selection criteria: Density of tribal population/ scarcity of water among tribal population/ willingness of Grama Panchayat

Objective:

To increase the access of rural communities to improved and sustainable water supply and sanitation services in Kerala, using a decentralized, demand-responsive approach.

Activity:

- Support capacity building of institutions and supporting organizations
- To assist GoK in implementing a statewide sector development program
- To provide technical assistance to implementing agencies concerning the infrastructure investments
- New and rehabilitated intra-Grama Panchayat (GP) rural water supply schemes
- Pilot rehabilitation and modernization of multi-GP water supply schemes and transfer of internal distribution to GPs
- Sanitation schemes, mainly covering community-centric solid and liquid waste management and household sanitation solutions in difficult terrain

Participating Panchayats in Wyanad:

- | | |
|---------------|----------------|
| - Noolpuzha | - Kottathara |
| - Thavinjal | - Kaniyambetta |
| - Edavaka | - Panamaram |
| - Thondarnadu | - Poothadi |
| - Vellamunda | - Pulpally |
| - Pozhuthana | |

Suchitwa Mission(Sanitation Programme)

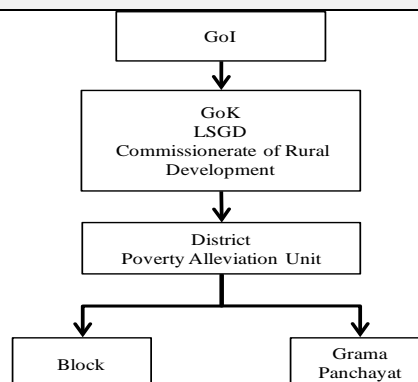
- Started: 2008
- Implementation Agency: LSGD
- Fund Source: GoK
- Beneficiary: All the citizens in Kerala
- Project Funds Flow: Figure to the right

Objective:

Waste-free Kerala with unpolluted environment, hygiene and cleanliness.

Activity:

- To provide sanitation
- To promote employment of appropriate technology, facilitate active community participation, and strengthening technical capabilities
- To achieve waste reduction at source



⁷ World Bank

<http://www.worldbank.org/projects/P121774/second-kerala-rural-water-supply-sanitation-project-jalanidhi-ii?lang=en>
(Accessed on the 18th June 2014)

Total Sanitation Programme
<ul style="list-style-type: none"> - Started: 1999 - Implementation Agency: LSGD - Fund Source: GoI - Beneficiary: All the citizens in the rural areas <p>Objective:</p> <ul style="list-style-type: none"> - To accelerate sanitation coverage in rural areas - To cover school/ Anganwadis in rural areas with sanitation facilities and to promote hygiene education - To eliminate open defecation - To convert dry latrines to pour flush latrine <p>Activity:</p> <p>To construct rural sanitation centre, individual household latrines, school sanitation/ toilets, etc.</p>
National Rural Health Mission (NRHM)
<ul style="list-style-type: none"> - Started: 2005 - Implementation Agency: District Programme Management Support Unit, State Health and Family Welfare Society - Fund Source: GoI - Beneficiary: All the citizens in the rural areas - Project Funds Flow: Fund from GoI goes to State Health and Family Welfare Society of GoK, and to be allocated to District Programme Management Support Unit <p>Objective:</p> <p>To provide accessible, affordable and accountable quality health services to the poorest households in the remote rural regions</p> <p>Activity:</p> <ul style="list-style-type: none"> - To provide sanitation - To promote employment of appropriate technology, facilitate active community participation, and strengthening technical capabilities

Source: Compiled by JICA Survey Team (2014) based on the related web sites and Economic review 2013, Kerala State Planning Board

4.9 Programmes for Natural Resources Management

Programmes for Natural Resources Management

Integrated Watershed Management Programme (IWMP)

- Started: 2009
- Implementing Agency: DoRD
- Fund Source: Department of Land Resources, GoI
- Budget: Rs.1 billion in Kerala in 2014-15
- Almost half of the budget is for natural resources management
- Beneficiary: Citizens in the watershed
- Beneficiary Selection Criteria: Marginalized communities including SC/ST, landless/assetless people, women, etc., among which preference will be given to women, especially female headed households, ST & SCs, as identified under the wealth ranking conducted as a part of the PRA exercise.

Objective:

To provide sustainable livelihoods to the people residing in the watershed area by enabling multi-cropping and the introduction of diverse agro-based activities

Activity:

To restore the ecological balance by harnessing, conserving and developing degraded natural resources such as soil, vegetative cover and water for prevention of soil run-off, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table

Project Areas and Beneficiaries for 2010 - 11 onwards:

The beneficiary Wards, geo reference and proposed project costs are given in **Annex 4 in Vol. III.**

Names of the Panchayats are given below.

- IWMP I: Vythiri, Pothuthana, Thariyode, Vengapalli, Kalpetta Municipality (4,403 ha)
- IWMP II: Moopainad, Meppadi, Vythiri, Kalpetta Municipality (3,663 ha)
- IWMP III: Moopainad, Meppadi, Meenangadi, Muttill, Kothathara, Ambalavayal (5,175 ha)
- IWMP IV: Sulthan Bathery, Meenangadi, Mabalavayal, Nenmeni (4,598 ha)

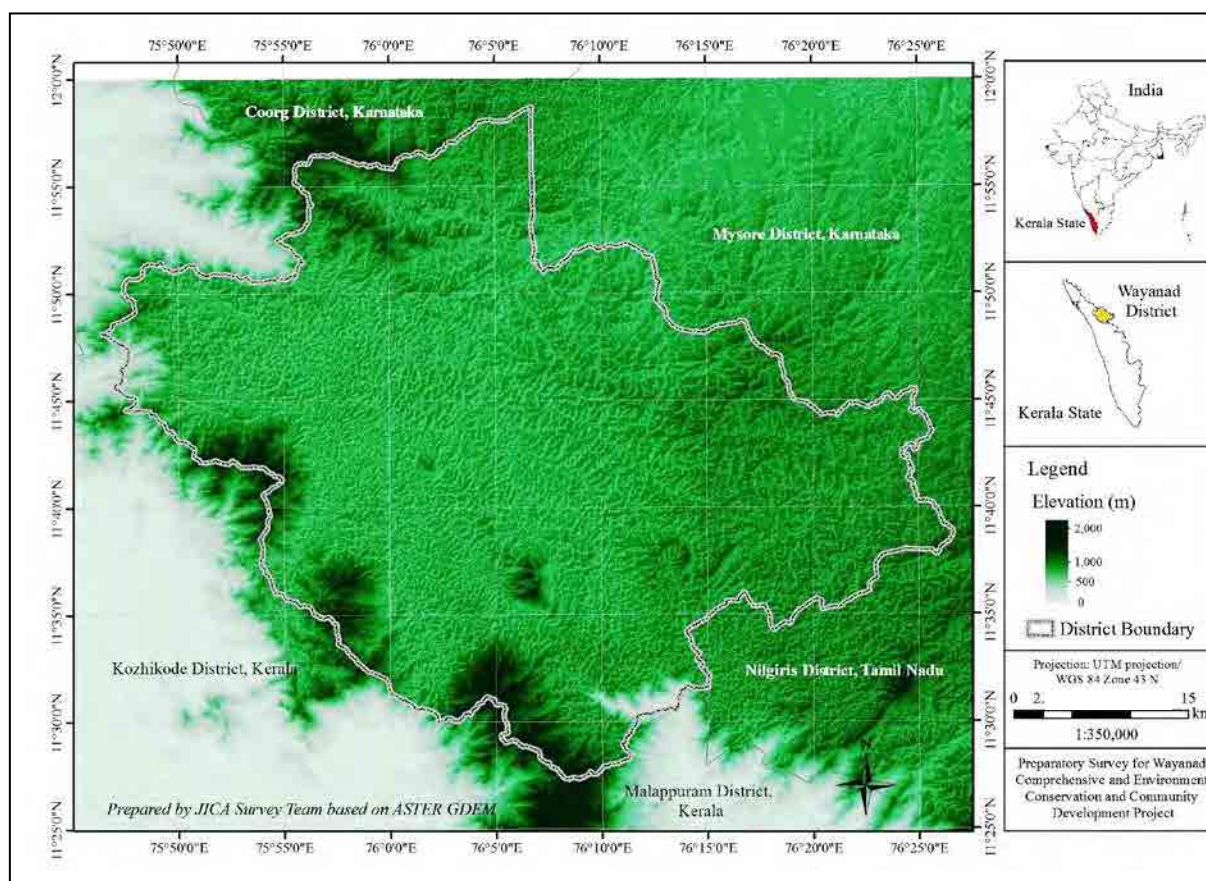
Source: Compiled by JICA Survey Team (2014) Based on Economic review 2013, Kerala State Planning Board

Chapter 5 Natural Conditions

5.1 Topography

The district can be divided into the four different physiographic zones: i) high ranges with rugged topography which include hill ranges in the west, northwest and south western part with steep slopes and narrow valleys, ii) high ranges with moderately rugged topography includes hill ranges along the eastern part, iii) isolated hills which flattens and open towards south and west, and iv) the mountainous region descends in height except some lofty hills, intermountain valley and flood plains.

In the centre of the district, hills are around 700m in height while the northern and south-eastern areas have higher hills and they give a wild and a mountainous appearance. The highest peaks in the district are Vellarimala, Banasura, Brahmagiri and Chembra and they range from 1,500 to 2,100 m in height. The following figure shows slope of the district. As indicated, the southern fringe area of the district is a pocket with the flat low land below 4 m: it constitutes a foot of the Western Ghats and is continuing the low-lying plain in Mallappuram District. Topography of the district is shown in the figure below.



Topography of Wayanad District

Source: JICA Survey Team (2014)

5.2 River System and Catchments

Because of complicated geo-morphological features the district has densely developed its drainage systems formed with different sizes of streams and rivers. There are 10 major rivers running in the district as listed below. The figures in bracket show the area to be covered with the watershed of the

river. They are also indicated in **Map 5** as attached in the top of this report. As the Map shows, the watersheds of these rivers extend in the major part of the district.

1) Mananthavady (359.89 km ²)	6) Kabini (149.55 km ²)
2) Nul (305.07 km ²)	7) Pozhurana (120.27 km ²)
3) Chundal (268.17 km ²)	8) Narasi (105.87 km ²)
4) Panamaram (193.84 km ²)	9) Erinhi (95.59 km ²)
5) Bavali (178.55 km ²)	10) Kannaram (94.70 km ²)

Map 6 in the top of this report shows the drainage system of Wayanad District. As is shown in the Map, the network of the small drainages and streams densely covers the district in particular the hilly and mountainous areas in north western, southern and eastern parts of the district. Banasurasagar dam and Karapazha reservoir located in the southern part provide water to Panamaram and Bavali Rivers watersheds.

5.3 Climate and Seasons of Wayanad

Located in higher altitude, the climate of Wayanad plateau is fairly cool throughout a year.

As indicated in the following table, there are four seasons in a year including two types of rainy seasons, cold and hot seasons. The major rainy season comes in June, which is brought about by the southwest monsoon from Arabian Sea to continue until September. The following small rainy season comes with the northeast monsoon which brings less rainfall during October and November. With the onset of small rainy season the farming is started in the paddy field. With end of rainy season it start drier season in December lasting for six months till May. The first three months up to February is dry and cold period, which is followed by dry and hot period up to May.

Seasons of Wayanad District

Seasons	Months
South West Monsoon (Rain)	June to September
North East Monsoon (Rain)	October to November
Cold Weather (Winter)	December to February
Hot Weather (Summer)	March to May

Source: Working Plan, North, South and Wildlife Division.

5.4 Rainfall, Temperature and Other Climate Conditions

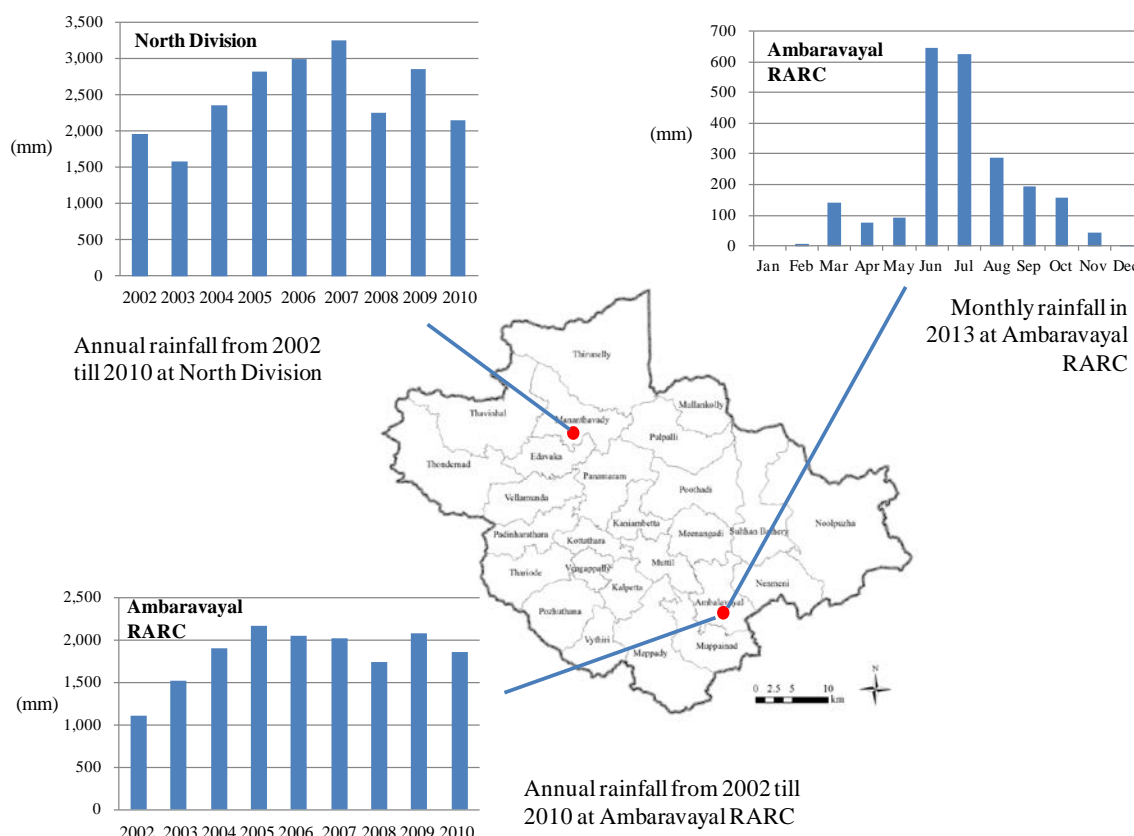
5.4.1 Rainfall and Temperature

The rainfall in Wayanad District is largely different in its locations, in terms of the monthly/annual amount and monthly distribution in a year. The rainfall data have been recorded in two different locations as given in the following table. Those are the station of Wayanad North Forest division and the Ambaravayal Regional Agricultural Research Centre in the area of Wayanad South Forest Division. Those locations are indicated on the following figure with the graphs showing monthly and annual distributions of rainfall.

Average Annual Rainfall at Major Stations in Wayanad District

Division	Average Annual Rainfall (mm)	Remarks
North	2,464 ¹⁾	This is the rainfall data gauged at the station in North Forest Division. Annual average for 9 years from 2002 to 2010. Maximum rainfall is 3,244 mm while minimum is 1,584 mm during this period.
South	1,825 ²⁾	This is the rainfall data gauged at the Regional Agricultural Research Station (RARS) in Panchayat Ambalabayal located in southern part of the district. Annual average for 9 years from 2002 to 2010. Maximum rainfall is 2,168 mm while minimum is 1,109 mm during this period.

Source: 1) Working Plan, North/South/Wildlife Division, 2) Weather Data at RARS (Regional Agricultural Research Station), Ampalabayal, Wayanad. June 2014

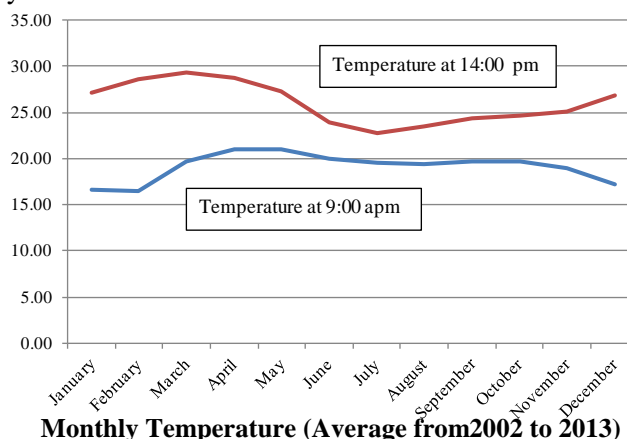


Annual Rainfall from 2002 till 2010 in major location of Wayanad District

Source: JICA Survey Team (2014) based on the data in the Working Plan in Wayanad North Division and Data recorded at RARC in Ambaravayal

On average, there is 2,000 mm of rainfall in Wayanad annually. The major portion is distributed from June to September and the rest comes almost every month.

The climate of Wayanad plateau is in general cooler due to higher altitude than the adjacent lowland in the State. During the cold weather season temperature falls below 15 °C, but in summer season the temperature reaches 29 °C and even higher degree is often recorded. From October to the end of February the atmosphere become dry, cool and salubrious. Mist is very common from November to February especially in the areas of higher elevations. Dry season commences from February and usually continues till May. The graph shows the temperature recorded at Regional Agricultural Research Stations (RARS) in Ambaravayal Panchayat in the southern part of the district.



Source: RARS, Wayanad

5.4.2 Humidity and Wind

In the northern region of Kerala State which is exposed to full force of southwest monsoon of Arabian Sea, “Kalavarsham”, the average humidity in the district is exceptionally high reaching 82.5%. It rises

to 90% in the months of June, July and August when the south west monsoon prevails and sinks to 72% in January when the average monthly rainfall is less than 10 mm¹.

While high velocity winds are very common in the high altitudes during south west monsoon, dry winds are experienced during March and April. Following the monsoons, westerly and easterly wind is prevailing. Westerly wind blows during the south-west monsoon over the whole area. A strong dry wind blows from the east between November and April. This dry wind induces spread of forest fire during summer season.

5.5 Flora and Fauna

Flora and fauna of Wayanad District are characterized by those distributed and inhabited in the Wayanad Wildlife Sanctuary. The area has over 5,000 species of flowering plants, 139 mammal species, 508 bird species and 179 amphibian species; it is likely that many undiscovered species live in the Western Ghats. The area is also characterized by high levels of species endemism. The forests here are globally important as they house endemic flora and fauna, which include 229 species of plants, 31 species of mammals, 15 species of birds, 52 species of amphibians. Among these, 55 species are critically endangered, 148 species are endangered and 129 species are vulnerable as per International Union for Conservation of Nature (IUCN) classification. An overview of fauna and flora in the district is described below.

5.5.1 Flora of Wayanad

Wayanad District has convergence of several different types of vegetation along the windward and leeward side of the Western Ghats and is dominated by Malabar floristic elements. The taxonomic survey was conducted from August 2010 to December 2012 to identify the endemic species of Wayanad natural vegetation. The survey identified and recorded 136 endemic species comprising 83 genera of 38 families of flowering plants. Their major part is Lauraceae (17 species), followed by Rubiaceae and Euphorbiaceae (11 species each), Myrtaceae and Annonaceae (10 species), Anacardiaceae (9 species), Celastraceae (6 species), Ebenaceae, Dipterocarpaceae and Symplocaceae (5 species each).

5.5.2 Fauna of Wayanad

The following species inhabit in the natural ecosystems extending in hills and mountains in the district. Unless indicated, the source of information is the Working Plan of the Forest and Wildlife Divisions.

Mammals: As regards to the mammalian diversity, more than 40 species of mammals have been reported. Of these, six are endemic to Western Ghats, such as *Lion tailed macaque*, *Nilgiri langur*, *Brown palm civet*, *Stripe necked mongoose*, *Dusky palm squirrel* and *Malabar spiny dormouse*.

The Wildlife Sanctuary extended in northeast parts of the district is rich in faunal diversity and abundance. Almost all the large mammals of peninsular India are observed in the area. It has a good population of Elephant (*Elephas maximus*), Gaur (*Bos gaurus*), Sambar (*Cervus unicolor*), Spotted deer (*Axis axis*), Barking deer (*Muntiacus muntjac*), Mouse deer (*Tragulid meminna*) and Wild boar (*Sus scrofa*).

Other animals such as Bonnet macaque (*Macaca radiata*), Common langur (*Presbytis entellus*), Sloth bear (*Melursus ursinus*), Tiger (*Panthera tigris*), Wild dog (*Cuon alpinus*), Panther (*Panthera pardus*), Jungle cat (*Felis chaus*), Indian pangolin (*Manis crassicaudata*), Porcupine (*Hystrix indica*), Malabar giant squirrel (*Ratufa indica*, and Indian hare (*Lepus nigricollis nigricollis*) are also seen in the forests or their fringe grassland.

¹ Source: "Working Plan" of North Wayanad and South Wayanad Forest Divisions and "Management Plan" of Wayanad Wildlife Division

Reptiles: Seven species of geckos are common in the reserved areas. Among the snakes reported from the area, golden tree snake, blind snakes and shield tails widely inhabit the district.

Amphibian: The Wayanad District is very rich in amphibian fauna. The species found in the area are the common Indian Toad, Ornate narrow mouthed frog, Indian green frog, Indian bullfrog, Kerala warty frog and Common tree frog. Other species as listed in their scientific names, such as *Uraeotyphlus menoni*, *U.narayani*, *Indirana beddomii*, *Micrixalus nudis*, *M.saxicola*, *Philautus pulcherrimus* and *Rhacophorus malabaricus* are endemic to Western Ghats.

Fish: 83 fish species have been recorded in the district. According to the IUCN criteria, the following species are coming under endangered category: *Glyptothorax annandalei*; *Nemacheilus evezardii*; *Nemacheilus monilis*; *Osteochilus brevidorsalis*; *Lepidopygopsis typys*; *Silurus wynaadensis*; and *Osteochilichthys longidorsalis*. Majority of the fish species are endemic to Western Ghats.

5.6 Vegetation and Land Use

To identify current land uses and vegetation in the district, the Survey Team conducted detailed remote sensing analysis with extensive ground truth for field validation. Spatial distribution of the land use and vegetation is shown in Map 11. The following table shows the summary of the analysis in comparison with the statistics of Land Use Board, 2012.

Land use statistics data in Wayanad

No	Land use in Wayanad district		Land use Board Statistics		Remote sensing Analysis	
	Level-I	Level-II	Area in km ²	Percentage	Area in km ²	Percentage
1	Built-up	Rural	17.33	0.81%	33.23	1.56%
2		Urban	2.55	0.12%	9.80	0.46%
3	Agriculture	Crop land	294.38	13.82%	176.99	8.31%
4		Plantation/ Coffee/Tea/Rubber	842.41	39.55%	905.77	42.53%
5		Fallow land	0.58	0.03%	59.80	2.81%
6	Forest	Evergreen/ Semi Evergreen	670.14	31.47%	304.92	14.32%
7		Moist/dry deciduous forest	131	6.15%	231.67	10.88%
8		Scrub Forest	20.67	0.97%	97.46	4.58%
9		Forest Plantations	38.77	1.82%	173.69	8.16%
10	Waste land	Land with scrub	60.74	2.85%	57.87	2.72%
11		Land without scrub, Rocks/ barren hill ridges	31.11	1.46%	1.99	0.09%
12	Grass land	Dense/Degrade	8.05	0.38%	53.47	2.51%
13	Water body	Reservoir/Lake	11.88	0.56%	15.21	0.71%
14		River/ Stream			7.87	0.37%
		Total	2,129.61	100%	2,129.74	100.00%

Source: Prepared by the JICA Survey Team through remote sensing analysis of Sat-2 LISS IV image provided by National Remote Sensing Centre, Hyderabad (2014)

The remote sensing (RS) analysis conducted by the JICA Survey Team has revealed that 37.93% of the land is occupied by the forests while 53.65% is categorized as the agricultural land. The big differences between the data given by the Land Use Board statistics in 2012 and by the Survey Team is found in the sub-categories of forest such as area of evergreen/semi evergreen forest, moist deciduous forests, scrub forest and plantation. Same is also in the case of agricultural land as plantation, crop land and fallow. These discrepancies in the figures could be attributed to the differences between the criteria applied in the Land Use Board Statistics and in the remote sensing analysis conducted by the Survey Team. However, having applied the updated technologies and conducted field verification, the RS analysis by the Survey Team could more precisely identify each sub-category on the image. The following paragraphs focus on some of the features of these land use elements to brief the backgrounds of their recent changes.

(1) Built-up Land

The built-up areas are categorized urban and rural according to their locations. Urban areas are found in the Panchayats located in the centre of the district such as Kalpetta, Sulthan Bathery, Mananthavady, etc. Meanwhile the cluster of houses in the rest of the urban areas is categorized as rural built-up land which occupies the land three times bigger than the urban built-up land.

(2) Agricultural land

The largest land use in Wayanad District is agriculture. It reaches 1,142.57 km², which is 53.65% of the total district area. Plantation of coffee, tea, coconut palm, and rubber is the major part. In particular coffee is the biggest part of the plantation which accounts 33% of total agricultural land. The area of plantation is followed by crop production such as rice, maize, vegetable, etc. These agricultural lands extensively lie in the mid-altitude plateau of the central part of the district, where the bulk of the district population are residing.

(3) Forest

Because of complicated geo-morphological features, the forest vegetations in the district are composed with several types, such as moist deciduous, evergreen and semi evergreen forests. Evergreen/Semi-evergreen forests are mostly found at 900 m of above sea level as shown in Map 12. It covers 304.92 km² in the district. The major part concentrates in the Lady Smith Reserve Forest in Chedleth and Meppadi ranges in Wayanad South forest division. The other part is in Periya Range in North division.

Moist/dry deciduous forests extend at the level of 700-1,000 m above sea level. It covers 231.67 km² of the district. The bulk of moist deciduous forests are distributed on the north-eastern edge of the district, such as in Begur and Chedleth ranges where the higher precipitation is constantly recorded. Dry deciduous forests replaces the moist deciduous forests, which stretches along the state borders, as the precipitation becomes less and the forest lands gets drier.

Forest plantation covers 173.69 km² of the district area. Teak (*Tectona Grandis*) and *Eucalyptus spp.* are the most extensively raised species. 83.3% of the plantation (145.58 km²) lies in the Wildlife Sanctuary. Other than these forests, 97.46 km² belongs to scrub forest where smaller trees and shrubs are scattered in mosaic like open areas. They are distributed in every part of the forest land in the district.

(4) Waste land

These lands are referred to as degraded land formed due to lack of water and improper soil management and other natural conditions. Wastelands are categorized by use NRSC standard. Uncultivable waste lands such as barren rocky areas occur on steep isolated hillocks/hill tops and slopes, crests, plateau and eroded plains associated with barren and exposed rocky/stony wastes, lateritic outcrops, mining and quarrying sites. Most of these lands found throughout the district with very lesser in area.

(5) Grassland

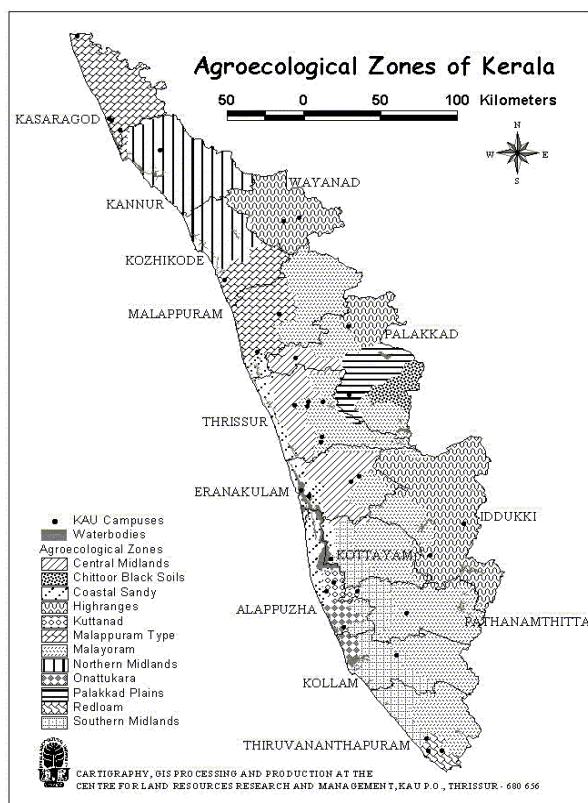
High altitude grass lands are found in south western part of the district. Major part of these grass lands were formed due to climatic, topographic and geological conditions. Lands covered with herbal vegetation are approximately 53.47 km², which is mostly confined to the hilltops with the altitude above 1,200meter. Those areas are mainly distributed in as Chembra, Kurichiarmala hills.

(6) Water bodies

As described in **Section 5.1.3**, Wayanad district is drained by the major rivers such as the Mananthavady, Nul, Chundal, Panamaram, Bavali rivers, and etc. The watersheds of these rivers with their tributaries run in the central part of the district where the agricultural land uses are dominant. Together with the Banasurasagar dam and Karapazha reservoir function the important water sources for human life and the agricultural production in the district.

5.7.1 Distributions of the Zones

As in the agro-ecological zone, Wayanad District belongs to Highranges, the main features of which are high altitude (more than 500 m above Mean Sea Level (MSL), red loam soil, narrow valleys, hills with steep gradients and steep slopes. The following map gives distribution of agro-ecological zones in Kerala State.



Agro-ecological Zoned of Kerala State

5.7.2 Soil and Geology

The National Bureau of Soil Survey and Land Use Planning of GoI has classified the soils in Kerala State into 38 units then numbered them accordingly from K01 to K38 based on basic characteristics such as texture, surface graveliness, and reaction. Conditions of the ground where the soil distributes such as degree of slope and erosion, depth of water table, drainage, etc. are also considered and applied to complete the classification. In Wayanad seven soil units among the 38 classes are found. Distribution of the soil is shown in **Map 15** and the detail of soil units are listed in the following table.

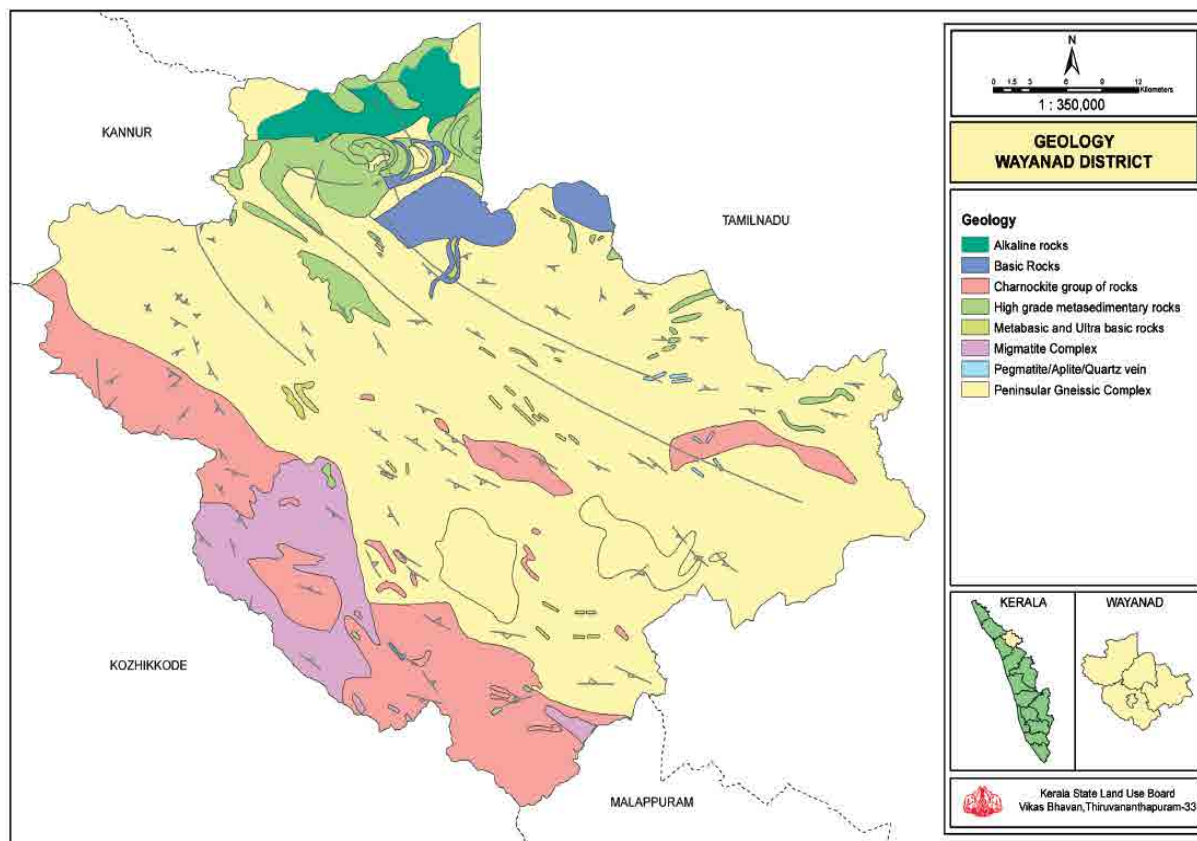
Soils of Wayanad District (Comprehensive legend)

Soil Mapping Units	Classification		Description of Major Soil
	Major soils	Inclusions	
K-09	Clayey- skeletal, Kaolin tic, Oxic Humitropepts clayey- skeletal, Kalinitic, Ustic Haplohumults	Clayey- skeletal, kaolinitic, Ustic Kandihumults Fine -loamy, mixed ,Typic Kandistults	Very deep, moderately well drained gravelly clay soils with moderate surface gravelliest on moderately sloping latrine mounds, with moderate erosion; associated with deep, well drained and gravelly clays soils on gently slopes.
K-15	Fine-loamy, mixed, Aeris Tropaquepts Fine,mixed,Aeris, Tropaquepts	Fine – loamy, mixed, Typic Ustrophepts Fine mixed , Typic Ustrophepts	Very deep, poorly drained, loamy soils with moderately shallow water table in very gently sloping valleys of Wayanad Plateau, with slight erosion; associated with very deep, imperfectly drained, clayey soils with moderately shallow water table on nearly level lands.
K-18	Clayey, mixed Ustic Clayey, mixed,Ustic Haplohumults	Clayey- Skeptical, mixed Ustic Palehumults, Clayey -Skeletal, Kaolintic,Kanhaplic haplustults	Very deep well drained, clayey soils on gently sloping lands of Wayanad Plateau, with moderate erosion; associated with very deep, well drained, clayey soils.
K-19	Clay ,mixed, Ustic Palehumults Rock land	Fine –loamy, mixed, Ustic,Humitropepts Fine- loamy, mixed, Ustic Palehumults	Very deep, well drained, clayey soils on moderately sloping high hills with thin vegetarians, with moderate erosion; associated with rock outcrops.
K-20	Clayey- skeletal, mixed, Ustic Haplohumults Clayey, mixed, Ustic Palehumults	Rock land, Fine, mixed, Ustic- Humitropepts	Deep, somewhat excessively drained, gravelly clay soils with, moderate surface graveliness on steeply sloping high hills with thick vegetarian, with moderate erosion ; associated with very deep, well drained, clayey soils on gently slopes
K-21	Clayey- skeletal,mixed, Ustic Haplohumults Clayey- Skeletal, Kaolinitic, Typic Kanhaplustults	Rock land Fine, mixed, Ustic Humitropepts	Moderately deep, somewhat excessively, drained gravelly clay soils with coherent material at 75 to 100 cm on moderately sloping medium hills with thick vegetation, with moderate erosion; associated with moderate erosion; associated with moderately shallow, somewhat excessively drained gravelly clay soils with moderately clay soils with moderate surface graveliness and coherent material at 50 to 75 cm on very steep slopes, severely eroded
K-24	Fine – loamy, mixed, Ustic Haplohumults Rock land	Clayey, mixed, Ustic Palehumults Clayey- Skeletal, mixed, Ustic Haplohumults	Deep well drained, gravelly loam soils with ironstone layer at 100 to 150 cm on moderately steeply sloping medium hills with thin vegetation with moderate erosion :associated with rock outcrops

Source: Kerala State Land Use Board (2012). Natural Resources Data Bank Wayanad.

Very deep, well drained clayey soil distributed in major part of the Wayanad plateau includes poorly drained loamy soil texture. The soils of the mountainous region are very deep, well drained clayey soil and deep, excessively drained gravelly clay soil. Moderately deep, excessively drained gravelly clay soils are distributed in few areas in western parts of the district. Distribution of very deep, moderately well drained gravelly clay soils and deep, well drained gravelly loam soils are very limited, which found only an area in north eastern part and southern part, respectively.

Distribution of the geology in Wayanad is shown in the following map. The district can be broadly divided into four geological domains consisting of Alkaline rocks, High grade metasedimentary rocks, and Basic rocks: i) the Peninsular Gneissic Complex in the north and central part; ii) the Migmatite Complex in the south-central part; iii) the Charnockite group in the south; and iv) the Wayanad group in the north.



Geology of Wayanad District

Source: Kerala State Land Use Board (2012). Natural Resources Data Bank Wayanad

The Wayanad group of supracrustal rocks include garnet-sillimanite-biotite gneiss with or without graphite, kyanite-fuchsite-muscovite-quartz schist, hornblende-biotite schist and gneiss \pm garnet, amphibolite bands, quartz-sericite schist/quartz-mica schist and meta-ultramafic rocks, representing upper amphibolite to lower granulite facies metamorphism. These rocks are found as linear bands in the north. The main member of the group namely garnet-sillimanite-biotite gneiss \pm graphite occurs as large bodies of the Peninsular Gneissic Complex, represented by hornblende-biotite gneiss and pink granite gneiss, occupies a major part of the district.

The Migmatite Complex is represented by biotite-hornblende gneiss, occurring over a large area in the south-central part. The other member of this group, namely quartzo-feldspathic \pm sillimanite occurs as narrow bands within charnockites. The Migmatite Complex is represented by biotite-hornblende gneiss, occurring in the south central part. The other member of this group, namely garnetiferous quartzo-feldspathic \pm sillimanite occurs as narrow bands within older charnockites. In the east, large bodies of intrusive pink granite occur near Kalpatta and Sulthan Bathery. Pegmatite veins are also associated with granites. Dolerite and gabbro are intrusive with older rocks. A large number of lenticular bodies of gabbro-anorthosites occur northeast of Mananthavady and diorite occur near the northern boundary of the district.

Chapter 6 Demography and Socio Economic Condition

6.1 Demography of Kerala

The total population of Kerala is 33,406,061 persons, of which 16,027,412 persons or 48.0% are male and 17,378,649 persons or 52.0% are female. The decadal population growth rate is reported to be 4.9%. Scheduled Caste (SC) population accounts for 3,039,573 persons or 9.1% of the total population and Scheduled Tribes (ST) is 484,839 persons or 1.5% of the same. Most of the ST population is concentrated in Palakkad and Wayanad Districts and that of SC is observed in Palakkad, Pathanamtitta, Idukki and Kollam Districts. The rural population in Kerala accounts for 52.3% of the total population.

6.2 Demography of Wayanad District

6.2.1 Overview

The total population of Wayanad is 785,840 persons (Census 2011). Male- female ratio is 1:1.03. 96.2% of the total population resides in rural area. The total number of household is 183,375.

The population of Wayanad is often grouped into four social groups including SC, ST, Other Backward Class (OBC). The population that is not identified with SC, ST or OBC are grouped according to the government definition. On the other hand, the rest of the groups may be categorised as General, Other or Other Minority Groups. General descriptions of SC, ST and OBC are given below.

Social Groups in Wayanad

Social Group	Description	Number of Communities in Kerala ¹	Total Population and Communities in Wayanad
SC	<ul style="list-style-type: none"> - Recognised by the Constitution of India Article 341 (1) and 342 (1) - National Commission for SC and the same for ST are established for safeguard under Government of India 	53 communities	Population: 30,378 (3.87%) ² Populous Communities ³ : Pulaya, Cheruma Panchayat with large SC population: Meppadi Panchayat
ST	<ul style="list-style-type: none"> - Provisions for reservations in public services and local governance - Various government supports for education and livelihood 	36 communities	Population: 148,215 (18.86%) ⁴ Populous Communities ⁵ : Paniya, Kurichya, Kuruma/Mullu Kuruma, Kuttunaikka, Adiya Panchayats with large ST population: Thirunelly, Noolpuzha and Panamaram
OBC	<ul style="list-style-type: none"> - Recognised as “socially and educationally backward class” in the Constitution of India Article 340 	80 communities	No Data Muslim community is one of the 80 listed communities and

¹ Kerala State Public Service Commission.

(http://keralapsc.gov.in/index.php?option=com_content&view=article&id=338&Itemid=198 accessed on September 2014)

² Data compiled by JICA Survey Team (2014) based on Census 2011, Government of India

³ District Scheduled Caste Development Officer (June 2014)

⁴ Data compiled by JICA Survey Team (2014) based on Census 2011, Government of India

⁵ Basic Information on ST Community: Wayanad – Selected Data (2008). Local Self Government Department and Scheduled Tribe Development Department

Social Group	Description	Number of Communities in Kerala ¹	Total Population and Communities in Wayanad
	<ul style="list-style-type: none"> List of OBC is issued by the National Commission of Other Backward Class (A statutory body under Ministry of Social Justice and Empowerment) for safeguard Provisions for reservations in public services and local governance Various government supports for education and livelihood 		its population accounts for 239,971 persons or 29.39% ⁶ in Wayanad district.

Source: Compiled by JICA Survey Team (2014) based on the data from various sources. Sources are given in the footnote.

Panchayat wise demographic data based on Census 2011 is given in the table below.

Demography of Wayanad

Panchayats	Number of Households	Total of Panchayat			SC				ST			
		Male	Female	Total	Male	Female	Total	% in Total of Panchayat	Male	Female	Total	% in Total of Panchayat
Thirunelly	6,902	14,573	15,123	29,696	243	237	480	1.62%	6,435	6,744	13,179	44.38%
Mananthavady	11,376	23,468	24,506	47,974	852	837	1,689	3.52%	3,616	3,885	7,501	15.64%
Thavinhal	9,257	19,685	20,128	39,813	784	773	1,557	3.91%	3,877	3,799	7,676	19.28%
Thondernad	5,280	11,546	11,596	23,142	238	228	466	2.01%	2,638	2,509	5,147	22.24%
Edavaka	7,539	16,802	16,863	33,665	252	198	450	1.34%	2,808	2,604	5,412	16.08%
Vellamunda	8,796	20,010	20,617	40,627	412	399	811	2.00%	3,228	3,377	6,605	16.26%
Panamaram	10,334	22,668	22,959	45,627	506	520	1,026	2.25%	5,286	5,529	10,815	23.70%
Kottathara	3,787	8,195	8,475	16,670	259	272	531	3.19%	2,337	2,471	4,808	28.84%
Kaniambetta	7,672	16,739	17,217	33,956	379	393	772	2.27%	3,276	3,287	6,563	19.33%
Muttil	7,998	17,150	18,131	35,281	521	509	1,030	2.92%	2,617	2,662	5,279	14.96%
Padinharathara	5,788	12,592	13,373	25,965	901	929	1,830	7.05%	1,517	1,614	3,131	12.06%
Vengappally	2,676	5,735	6,021	11,756	125	141	266	2.26%	1,473	1,504	2,977	25.32%
Thariode	2,734	5,808	5,917	11,725	115	109	224	1.91%	1,327	1,368	2,695	22.99%
Pozhuthana	4,256	8,854	9,552	18,406	620	602	1,222	6.64%	1,824	1,798	3,622	19.68%
Vythiri	4,159	8,815	9,490	18,305	1,420	1,388	2,808	15.34%	627	662	1,289	7.04%
Meppady	8,661	18,349	19,436	37,785	1,786	1,716	3,502	9.27%	1,792	1,785	3,577	9.47%
Muppainad	5,562	11,936	12,654	24,590	906	926	1,832	7.45%	899	1,000	1,899	7.72%
Pulpalli	8,414	16,812	17,139	33,951	533	489	1,022	3.01%	3,383	3,644	7,027	20.70%
Poothadi	9,800	19,633	20,016	39,649	486	444	930	2.35%	3,892	3,921	7,813	19.71%
Mullankolly	6,929	14,131	14,269	28,400	775	803	1,578	5.56%	1,600	1,508	3,108	10.94%
Sulthan Bathery	10,848	22,342	23,075	45,417	867	894	1,761	3.88%	2,610	2,736	5,346	11.77%
Noolpuzha	6,510	13,673	14,160	27,833	419	443	862	3.10%	5,507	5,726	11,233	40.36%
Nenmeni	11,330	22,929	24,021	46,950	910	956	1,866	3.97%	3,786	4,085	7,871	16.76%
Ambalavayal	8,568	17,214	17,993	35,207	495	460	955	2.71%	2,813	3,054	5,867	16.66%
Meenangadi	8,199	16,624	16,826	33,450	477	431	908	2.71%	3,843	3,932	7,775	23.24%
Total	183,375	386,283	399,557	785,840	15,281	15,097	30,378	3.87%	73,011	75,204	148,215	18.86%

*SC: Scheduled Caste; ST: Scheduled Tribe

Source: JICA Survey Team (2014) based on Census 2011, Census of India.

6.2.2 Scheduled Tribes (ST)

(1) Demography of ST Communities

ST population in Wayanad is comprised of different communities of tribes. Demographically, the most dominant ST community is Paniya which accounts for 44.09% of the total ST population in Wayanad followed, by Kurichiya (16.14%), Kuruma/ Mullu Kuruma (14.39%) and Kuttunaikka

⁶ Compiled by JICA Survey Team (2014) based on ICDS Annual Survey (2012-13) Data as of March 2013.

(11.73%). These tribal populations is scattered across 2,124 colonies⁷ in the district (Panchayat Level Statistics 2011 – Wayanad).

The Number of Households, Population and Literacy by ST Community in Wayanad (2008)

ST Community	No of Total Households	Population			% to Total ST Population	Literacy Rate
		Male	Female	Total		
Adiya	2,528	5,287	5,728	11,015	7.61%	65.94%
Karimpala	34	74	58	132	0.09%	93.65%
Kuttunaikka	4,354	8,454	8,527	16,981	11.73%	60.10%
Kurichya	5,408	11,938	11,441	23,379	16.14%	84.63%
Kuruma/ Mullu Kuruma	5,100	10,368	10,472	20,840	14.39%	86.98%
Mala Araya	43	82	84	166	0.11%	96.79%
Paniya	14,701	31,056	32,799	63,855	44.09%	64.32%
Thachanadan Moopan	384	800	819	1,619	1.12%	80.69%
Ulladan	23	42	52	94	0.06%	71.76%
Vettakuruma	1,612	3,030	3,119	6,149	4.25%	67.28%
Wayanad Kadar	154	308	287	595	0.41%	86.30%
Total	34,341	71,439	73,386	144,825	100.00%	89.66%

Source: JICA Survey Team (2014) based on “Basic Information on ST Community: Wayanad – Selected Data” (2008).
Local Self Government Department and Scheduled Tribe Development Department⁸

(2) Characteristics of ST Communities

Each one of the above mentioned ST communities has unique characteristics in their origin and livelihood. At present, most of the ST communities depend on the wages earned from agriculture labour either within Wayanad or in Karnataka, which provides them seasonal income. Kurichiya and Kuruma/ Mullu Kuruma are known as paddy cultivators. The livelihood characteristics of major ST community are summarised as below.

Characteristics of Major ST Communities in Wayanad

ST Community	Livelihood Characteristics
Paniya	<ul style="list-style-type: none"> ➤ Past: bonded labourer ➤ Present: Agriculture and manual labourer ➤ Migrates seasonally to Coorg district and other nearby places in Karnataka in search of employment
Kurichya	<ul style="list-style-type: none"> ➤ Past: Paddy cultivator ➤ Present: in addition to rice, they also cultivate ragi, coffee, pepper, areca nut, etc. ➤ Have agriculture land ➤ Joint family system ➤ Follow traditional laws and practices
Kuruma/ Mullu Kuruma	<ul style="list-style-type: none"> ➤ Settled agriculturists ➤ Cultivates paddy ➤ Rear cattle and hunt
Kuttunaikka	<ul style="list-style-type: none"> ➤ Recognised as Particularly Vulnerable Tribal group (PVTG) ➤ Forest based livelihoods ➤ Honey collector ➤ Practiced shifting cultivation around the settlements ➤ Hunt and gather foods from the wild

⁷ Colonies may accommodate more than one tribal community and may not have a headman. In the traditional and kin-ship based settlement area with homogeneous tribal inhabitants is generally called as hamlet. Its headman is called Oorumooppa. (Scheduled Tribes of Kerala - Report on the Socio Economic status. Scheduled Tribes Development Department, Government of Kerala, November 2013)

⁸ The report was released at varying timing between 2011 and 2012 but the survey was conducted in 2008. The data book was prepared for each Panchayat, from which JICA Survey Team has extracted and compiled the data for this report.

ST Community	Livelihood Characteristics
Vettakuruma	<ul style="list-style-type: none"> ➤ Recognised as ST in 2003 ➤ Most skilful among the STs ➤ Artistic skills in making pottery, basket weaving, wood carving. Women – basketry and bamboo mat weaving
Adiya	<ul style="list-style-type: none"> ➤ Past: Bonded labourers ➤ Present: The majority is agriculture labourer. Migrate to work in the farms in Karnataka.

Source: JICA Survey Team (2014)

(3) Indebtedness

A number of poverty alleviation schemes are implemented in Wayanad. Loan appears to have become one of the common coping strategies against the fluctuation of income. 49.51% of the ST households that took loan are dependent on agriculture labour⁹.

The number of ST households in Wayanad that are indebted is 13,389 households or 38.98%¹⁰ of 34,341¹¹ ST households in the district. The main source of loan was reported to be Kudumbashree followed by money lenders /institutions.

The Number of ST Households Indebted and Sources of Loan in Kerala

Unit: Households

District	Cooperative Society	State/ District Cooperative Bank	Other Banks	Kudumbashree	Money Lenders/ Institutions	Relatives	Other sources	Total	% to State Total
Thiruvananthapuram	555	269	369	389	1,002	27	19	2,630	4.35%
Kollam	172	33	38	91	380	45	36	795	1.32%
Pathanamthitta	544	53	101	203	482	37	153	1,573	2.60%
Alappuzha	97	12	102	36	100	14	4	365	0.60%
Kottayam	779	462	588	305	748	69	173	3,124	5.17%
Idukki	1,506	853	895	1,641	5,423	400	763	11,481	19.00%
Eranakulam	506	50	144	174	781	33	68	1,756	2.91%
Thrissur	112	22	52	49	95	8	4	342	0.57%
Palakkad	293	328	459	332	2,418	166	458	4,454	7.37%
Malappuram	213	57	153	90	949	16	95	1,573	2.60%
Kozhikode	329	152	397	453	521	68	64	1,984	3.28%
Wayanad	944	1,321	2,088	4,180	3,922	385	549	13,389	22.15%
Kannur	1,332	484	767	1,560	1,491	113	233	5,980	9.89%
Kasargod	2,209	760	1,407	3,119	2,194	335	965	10,989	18.18%
State Total	9,591	4,856	7,560	12,622	20,506	1,716	3,584	60,435	100.00%

Source: Scheduled Tribes of Kerala – Report on the Socio Economic Status (2013). Scheduled Tribes Development Department of Kerala.

6.2.3 Scheduled Castes (SC)¹²

(1) Settlement Pattern and Demography

In Wayanad, the population of SC accounts for 3.9% out of the total population of Wayanad (785,840 persons) or 30,378 persons. SC community comprises of 25 SC communities in Wayanad district. The largest SC community in Wayanad is Pulaya with 9,905 persons followed by Cheruma with 8,595 persons.

⁹ Scheduled Tribes of Kerala – Report on the Socio Economic Status (2013). Scheduled Tribes Development Department of Kerala.

¹⁰ Ibid.

¹¹ Basic Information on ST Community: Wayanad – Selected Data (2008). Local Self Government Department and Scheduled Tribe Development Department

¹² 53 Scheduled Castes are listed in Kerala.

Community wise SC Population

Community	Population	Proportion to the Total SC Population
	Persons	%
Pulaya	9,905	27.20
Cheruma	8,595	23.60
Kanakka	2,215	6.08
Bakuda	2,735	7.51
Paraya	1,880	5.16
Mannan	1,700	4.67
Pathiya	2,280	6.26
Chakliya	1,400	3.84
Mogar	700	1.92
Vela	450	1.24
Parava	870	2.39
Pallan	380	1.04
Adi Karnataka	224	0.62
Mannan	1,460	4.01
Kurava	104	0.29
Vettuva	56	0.15
Kavara	48	0.13
Vedar	16	0.04
Vannan, Perumannan, Malayan, Arundhathiyar, Kalladi, Valluvan, etc	1,398	3.84
Total	36,416	100.00

Source: JICA Survey Team (2014) based on the Data provided by the District Scheduled Caste Development Officer (June 2014)

(2) Characteristics of SC Communities

The majority of the SC populations were brought to the area to work in plantations during the British colonial period. Their traditional and present means of livelihoods are outlined in the table below.

Present and Traditional Means of Livelihood

SC communities	Present livelihood engagements	Traditional livelihood engagements
Adi Karnataka	Agricultural labourers	-
Adi Andra	Plantation labourers	Artisans ,Pottery makers
Adi Dravida	Agricultural labourers	-
Bakuda	Plantation labourers	Farmers
Chakkiliya	Plantation labourers	Leather workers
Cherumar	Farming and Agriculture labourers	-
Kanakkan	Farming and Agriculture labourers	-
Pulaya	Farming and Agriculture labourers	Agriculture labourers
Velan	Astrology, Farming	Astrology, Traditional medicine
Vannan	Agricultural labourers	Laundry workers
Mannan	Agricultural labourers	Laundry workers
Kavara	Bamboo products, Agriculture labourers	Utensils and other items of bamboo

Source: JICA Survey Team (2014) based on the Information provided by the District Development Officer, Scheduled Caste Development Department, Wayanad (2014)

6.2.4 Other Social Groups

(1) Other Backward Classes (OBC)

OBCs are defined by the National Commission for Backward Classes, which issues a list containing the names of the communities. In Kerala, 80 communities are listed including Ezava, Thiyya and Muslim communities¹³.

(2) Various Religious Groups

In Wayanad, Muslims and Christians constitute the majority of its population accounting for 29.39% or 239,971 persons and 21.87% or 178,556 persons respectively out of the total population of 816,595 persons (ICDS Annual Survey 2012-13, Wayanad district). Muslim population is high in Muttill Panchayat, Pozhuthana and Vellamunda Panchayats. Christians are the majority in Mullankolly Panchayat. In Thirunelly Panchayat, Jain and Paris population is found. Kaniambetta and Meppadi Panchayats have population of Jain and Sikh. Buddhist is also found in Kaniambetta Panchayat.

Population by Religion in Panchayats

Panchayat	Hindu		Muslim		Christian		Others		Total	
	Persons	% in Panchayat	Persons	% in Panchayat	Persons	% in Panchayat	Persons	% in Panchayat	person	%
Ambalavayal	27,918	59.45%	8,218	17.50%	10,826	23.05%	0	0.00%	46,962	100.00%
Edavaka	13,225	39.08%	10,831	32.01%	9,769	28.87%	14	0.04%	33,839	100.00%
Kaniambetta	12,883	36.50%	16,939	47.99%	4,756	13.47%	721	2.04%	35,299	100.00%
Kottathara	9,456	52.78%	4,425	24.70%	4,036	22.53%	0	0.00%	17,917	100.00%
Mananthavady	22,664	46.19%	10,373	21.14%	15,867	32.34%	160	0.33%	49,064	100.00%
Meenangadi	21,826	61.40%	5,777	16.25%	7,916	22.27%	27	0.08%	35,546	100.00%
Meppady	16,416	42.53%	17,439	45.18%	4,505	11.67%	243	0.63%	38,603	100.00%
Muppainad	9,320	34.77%	13,148	49.05%	4,335	16.17%	0	0.00%	26,803	100.00%
Mullankolly	12,944	42.35%	1,117	3.65%	16,505	54.00%	0	0.00%	30,566	100.00%
Muttill	8,524	28.85%	15,453	52.30%	5,570	18.85%	0	0.00%	29,547	100.00%
Nenmeni	17,979	45.13%	13,324	33.44%	8,539	21.43%	0	0.00%	39,842	100.00%
Noolpuzha	19,786	70.60%	4,314	15.39%	3,927	14.01%	0	0.00%	28,027	100.00%
Padinharathara	9,691	34.53%	13,301	47.40%	5,072	18.07%	0	0.00%	28,064	100.00%
Panamaram	21,352	46.12%	14,285	30.86%	10,659	23.02%	0	0.00%	46,296	100.00%
Poothadi	31,452	74.94%	2,833	6.75%	7,685	18.31%	0	0.00%	41,970	100.00%
Pozhuthana	8,473	42.64%	10,353	52.11%	1,012	5.09%	31	0.16%	19,869	100.00%
Pulpalli	25,471	67.93%	1,053	2.81%	10,971	29.26%	0	0.00%	37,495	100.00%
Sulthan Bathery	21,674	46.24%	15,247	32.53%	9,953	21.23%	0	0.00%	46,874	100.00%
Thariode	5,473	43.07%	2,798	22.02%	4,436	34.91%	0	0.00%	12,707	100.00%
Thavinhal	19,434	46.20%	10,401	24.72%	12,234	29.08%	0	0.00%	42,069	100.00%
Thirunelly	21,773	68.24%	3,394	10.64%	4,914	15.40%	1,827	5.73%	31,908	100.00%
Thondernad	9,269	37.68%	9,745	39.62%	5,584	22.70%	0	0.00%	24,598	100.00%
Vythiri	7,689	41.94%	7,022	38.30%	3,623	19.76%	0	0.00%	18,334	100.00%
Vellamunda	13,569	32.06%	23,677	55.95%	5,075	11.99%	0	0.00%	42,321	100.00%
Vengappally	6,784	56.18%	4,504	37.30%	787	6.52%	0	0.00%	12,075	100.00%
Total	395,045	48.38%	239,971	29.39%	178,556	21.87%	3,023	0.37%	816,595	100.00%

Source: JICA Survey Team (2014) based on ICDS Annual Survey (2012-13) Data as of March 2013.

¹³ Kerala State Public Service Commission.

(http://keralapsc.gov.in/index.php?option=com_content&view=article&id=338&Itemid=198 accessed on September 2014)

6.2.5 Other Vulnerable Groups – Unwedded mothers and Female Headed Households

In Wayanad, the number of female headed households and unwedded mothers (especially among Paniya tribe) are said to be high. They are in many cases invisible and social services are in many cases unable to reach them. Their vulnerability lies with the weak social status and lack of capacity to earn their living. There is a programme for “the destitute families” implemented by Kudumbashree called *Ashraya (Shelter)*. For unwedded mothers in Wayanad, the GoK provides financial assistance through *Snehasparsham (Touch of Love)* scheme.

(1) Female Headed Household:

The Annual Survey (2012-13) conducted by ICDS indicated 12.67% or 23,295 households are headed by female out of the 183,830 households in Wayanad. The data indicated that the high concentration of the female headed households in Ambalavayal Panchayat (1,696 households or 19.36%) followed by Nenmeni Panchayat (1,440 households or 6.18%). The known causes of occurrence of the female headed households identified by *Anganwadi* teachers of ICDS included: 1) deserted by the spouse, which is often linked with alcohol addiction and 2) premature death of the spouse due to cancer.

The Number of Female Headed Households in Panchayats in Wayanad

Panchayat	Total No of Households	No of Female Headed Households	% to Panchayat
Ambalavayal	8,761	1,696	19.36%
Edavaka	7,339	707	9.63%
Kaniyambetta	7,831	1,147	14.65%
Kothathara	3,972	663	16.69%
Mananthavady	11,296	1,088	9.63%
Meenangady	8,986	1,116	12.42%
Mepadi	8,554	1,164	13.61%
Moopainad	5,713	1,045	18.29%
Mullankolly	6,942	923	13.30%
Muttil	7,965	736	9.24%
Nenmeni	11,450	1,440	12.58%
Noolpuzha	6,504	1,134	17.44%
Padhinualthara	5,984	540	9.02%
Panamaram	7,716	1,202	15.58%
Poothazhy	9,980	1,289	12.92%
Pozhuthana	4,552	649	14.26%
Pupally	8,419	1,064	12.64%
S. Bathery	11,959	1,234	10.32%
Thariyode	2,754	327	11.87%
Thavinjhal	9,255	1,116	12.06%
Thirunelli	6,998	951	13.59%
Thondarnadu	5,338	584	10.94%
Vaythiri	4,192	400	9.54%
Vellamunda	8,692	792	9.11%
Vengappaly	2,678	288	10.75%
Total	183,830	23,295	12.67%

Remarks: The total number of households is based on ICDS Annual Survey 2012-13.

Source: JICA Survey Team (2014) based on ICDS Annual Survey (2012-13) Data as of end of March 2013.

(2) Unwedded Mothers

According to the ICDS Annual Survey (2012-13), 358 unwedded mothers were identified in the district. Thirunelly Panchayat has 51 unwedded mothers or 14.25% of the total figure followed by Panamaram Panchayat with 47 mothers or 13.13%.

Kerala promotes the self employment of the unwedded mothers through *Sharanya (Surrender)* scheme. Pension scheme for the unwedded mothers especially from the tribal communities is also available. Through this scheme, the financial assistance of Rs.1,000 per month is given to the beneficiaries.

The Number of Unwedded Mothers in Wayanad

Panchayat	Number of Unwedded mothers	% to Total
Ambalavayal	21	5.87%
Edavaka	9	2.51%
Kaniambetta	-	-
Kottathara	-	-
Mananthavady	23	6.42%
Meenangady	8	2.23%
Meppadi	8	2.23%
Muppainad	13	3.63%
Mullankolly	15	4.19%
Muttil	-	-
Nenmeni	35	9.78%
Noolpuzha	17	4.75%
Padinharathara	-	-
Panamaram	47	13.13%
Poothadi	34	9.50%
Pozhuthana	8	2.23%
Pulpalli	22	6.15%
Sulthan Bathery	10	2.79%
Thariode	11	3.07%
Thavinhal	4	1.12%
Thirunelly	51	14.25%
Thondernad	9	2.51%
Vythiri	5	1.40%
Vellamunda	8	2.23%
Vengappaly	-	-
Total	358	100.00%

Source: JICA Survey Team (2014) based on ICDS Annual Survey (2012-13) Data as of end of March 2013.

6.3 Socio Economic Condition

6.3.1 Economic Condition of Kerala and Wayanad District

The Gross State Domestic Product in 2012-13 at 2004-05 constant price accounted for Rs. 2,218,499 million (Quick Estimate¹⁴) (Economic Review 2013, p.8). Per capita income of Kerala at the current prices was estimated to be Rs. 99,977 in 2012-13 at current prices where as that of Wayanad was Rs. 77,243 (ibid.).

The Gross District Domestic Products (GDDP) figure of Wayanad indicated a sizable down turn in the valued produced by the primary sector. Between 2005-06 and 2012-13, it has decreased by 53%. On the other hand, the GDDP of the secondary and tertiary sectors have shown a considerable growth. The table below provides a comparison of the GDDP in Kerala and Wayanad.

¹⁴ Quick Estimate: Estimation based on more than 80% of the data that is to be collected for the estimated period. The missing data will be substituted by the corresponding average indices of the past years. The estimate is subject to revision but used for planning.

Gross District Domestic Product 2005-06 and 2012-13 (2004-05 Constant and Current Price)

Unit: million Rs otherwise noted

Sl. No	Sectors/ Sub-Sectors	Kerala				Wayanad			
		Constant (Base Year 2004-05)		Growth Rate (%) (A/B-1)	Current Price 2012-13	Constant (Base Year 2004-05)		Growth Rate (%) (C/D-1)	Current Price 2012-13
		2005-06 (A)	2012-13 (B)			2005-06 (C)	2012-13 (D)		
1	Agriculture & Allied Activities	180,420	155,880	-14%	412,272	11,605	6,203	-58%	16,404
2	Forestry & Logging	21,354	24,569	15%	41,661	615	723	16%	1,226
3	Fishing	17,048	18,192	7%	51,148	8	22	131%	63
4	Mining and Quarrying	5,847	8,467	45%	22,760	61	225	125%	604
A	Total of Primary Sector	224,669	207,108	-8%	527,841	12,288	7,172	-53%	18,297
5	Manufacturing	104,333	171,709	65%	265,543	886	1,458	29%	2,254
5.1	Registered	45,521	76,691	68%	119,595	386	651	27%	1,015
5.2	Un-registered	58,812	95,018	62%	145,948	499	807	30%	1,239
6	Electricity, Gas and Water supply	23,257	27,166	17%	47,157	159	187	-48%	318
6.1	Electricity	20,990	23,361	11%	40,978	141	157	-56%	275
6.2	Gas	393	599	52%	599	9	13	51%	13
6.3	Water Supply	1,874	3,206	71%	5,579	10	17	-15%	30
7	Construction	167,143	332,330	99%	560,514	1,939	3,855	87%	6,502
B	Total of Secondary Sector	294,733	531,205	80%	873,214	2,984	5,500	62%	9,074
8	Transport, Storage & Communication	134,434	344,394	156%	355,281	1,628	6,031	222%	7,344
8.1	Railways	5,604	7,716	38%	12,329	0	0	0%	0
8.2	Transport by other means	91,467	163,595	79%	275,922	1,143	3,823	177%	6,448
8.3	Communication	36,846	172,029	367%	65,071	464	2,168	339%	820
8.4	Storage	518	1,054	104%	1,958	20	41	79%	76
9	Trade, Hotel & Restaurants	269,534	378,251	40%	637,966	4,259	5,976	32%	10,080
10	Banking & Insurance	72,011	172,477	140%	185,049	1,599	3,829	137%	4,108
11	Real Estate Ownership, Business, Legal	145,264	230,310	59%	427,213	3,559	5,643	30%	10,467
12	Public Administration	53,331	83,482	57%	153,045	624	977	30%	1,791
13	Other Services	118,963	271,273	128%	333,775	2,869	6,542	108%	8,050
C	Tertiary Sector	793,538	1,480,186	87%	2,092,329	14,537	28,998	79%	41,838
	District Domestic Product (A+B+C)	1,312,939	2,218,499	69%	3,493,383	29,809	41,670	23%	69,209
	Mid Year Population	33,154,000	34,942,000	5%	34,942,000	839,000	896,000	7%	896,000
	Per capita Income(in Rupees)	39,601	63,491	60%	99,977	35,529	46,507	15%	77,243

Source: JICA Survey Team (2014) based on Gross District Domestic Product (At Factor Cost by Industry of Origin). Department of Economics and Statistics, Government of Kerala.

6.3.2 Labour

In Wayanad, male constitute a major work force. 67.10% of the total work force is male whereas the 32.90% is female. 77.21% is the main workers who are employed more than six months a year. Marginal workers who are employed less than six months comprises of 22.79% of the total work force, of which male constitute 48.37% and female 51.63%.

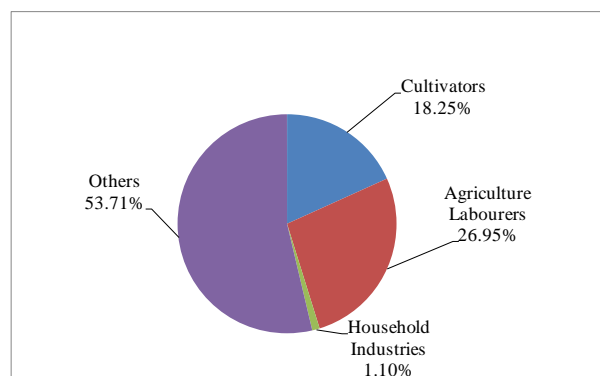
Gender Disaggregated Labour Structure in Wayanad

	Male		Female		Total	
	Number of Workers	%	Number of Workers	%	Number of Workers	%
Main Workers	183,961	72.63%	69,339	27.37%	253,300	77.21%
Marginal Workers	36,150	48.37%	38,584	51.63%	74,734	22.79%
Total	220,111	67.10%	107,923	32.90%	328,034	100.00%

Source: JICA Survey Team (2014) based on Census 2011, Census of India.

(1) Main Workers by Sector

Amongst the main workers, agriculture provides the most of the employment opportunities despite the decline in its economic turn over in the sector in Wayanad district. 18.25% of the main workers are engaged in cultivation on their own land and earn their living. 26.95% are employed as agriculture labourers. 53.71% of the main workers are engaged in the work in plantation, daily wage work at construction sites, and government employee, which sector is indicated as “Others”.



Source: JICA Survey Team (2014) based on Census 2011, Census of India.

Sector wise Distribution of Main Workers in Wayanad**6.3.3 Poverty and Inequality**

In Kerala, 43.38% of the total number of households or 2,792,795 households is BPL according to the BPL Survey (2009). Among the districts in Kerala, Wayanad has the highest number of the BPL households with 57.55% or 102,762 out of 178,572 households.

Out of the total BPL households in Wayanad district, 62,299 households were in “Other” category constituted by the general and minority groups. The Survey Team has made an attempt to disaggregate the “Other” category by extracting the data from the list prepared based on the BPL Survey (2009) ¹⁵.

BPL Households by Social Group based on BPL Survey 2009

Particulars	ST	SC	General	Other Minority Groups	Total
Number of Households	32,537	7,926	24,511	37,788	102,762
% in the district Total of BPL households	31.66%	7.71%	23.85%	36.77%	100%

*ST: Scheduled Tribe; SC: Scheduled Caste; General: Forward Caste; Other Minority Groups: All other groups.

Source: JICA Survey Team (2014) based on BPL Survey 2009

The distribution of BPL households by social groups in Grama Panchayats in Wayanad district is given below.

¹⁵ The data was extracted from the BPL List based on the BPL Survey 2009. <http://bplsveykerala2009.gov.in/> (accessed on 2nd July 2014)

Distribution of BPL Households by Social Groups in Grama PanchayatsUnit*: Households (HH)¹⁶

Panchayat	Total No of HH*	ST		SC		General		Minority		Total	
		No of HH*	%	No of HH*	%	No of HH*	%	No of HH*	%	No of HH*	%
Ambalavayal	8,713	1,383	28.84	308	6.42	1,268	26.44	1,836	38.29	4,795	55.03
Edavaka	7,196	977	27.37	166	4.65	887	24.85	1,539	43.12	3,569	49.60
Kaniyanbatta	7,253	1,294	30.22	247	5.77	732	17.09	2,009	46.92	4,282	59.04
Kottathara	3,925	1,101	44.15	128	5.13	473	18.97	792	31.76	2,494	63.54
Mananthavady	10,223	1,594	28.03	620	10.90	1,280	22.51	2,192	38.55	5,686	55.62
Meenangadi	7,844	1,686	37.07	299	6.57	1,381	30.36	1,182	25.99	4,548	57.98
Meppady	8,409	791	17.38	726	15.95	1,086	23.86	1,949	42.82	4,552	54.13
Mullankolly	6,964	812	20.42	536	13.48	1,095	27.54	1,533	38.56	3,976	57.09
Muppainad	5,569	453	14.63	515	16.63	583	18.82	1,546	49.92	3,097	55.61
Muttil	7,650	1,092	25.09	244	5.61	879	20.20	2,137	49.10	4,352	56.89
Nenmeni	11,300	1,828	28.97	469	7.43	1,924	30.49	2,090	33.12	6,311	55.85
Noolpuzha	6,660	2,728	62.76	147	3.38	798	18.36	674	15.50	4,347	65.27
Padinhaharthara	5,479	615	20.98	450	15.35	466	15.89	1,401	47.78	2,932	53.51
Panamram	9,862	2,277	38.19	254	4.26	1,083	18.17	2,348	39.38	5,962	60.45
Poothadi	9,431	1,728	30.43	201	3.54	2,504	44.09	1,246	21.94	5,679	60.22
Pozhuthana	3,875	687	30.41	281	12.44	258	11.42	1,033	45.73	2,259	58.30
Pulpally	8,543	1,844	35.81	220	4.27	1,836	35.65	1,250	24.27	5,150	60.28
Sulthan Bathery	10,351	1,269	25.57	300	6.04	1,417	28.55	1,977	39.83	4,963	47.95
Thariyod	2,731	698	41.72	150	8.97	234	13.99	591	35.33	1,673	61.26
Thavinhal	9,186	1,539	28.98	416	7.83	1,249	23.52	2,106	39.66	5,310	57.81
Thirunelly	6,975	2,935	55.90	200	3.81	1,151	21.92	964	18.36	5,250	75.27
Thondarnad	5,356	1,051	33.49	184	5.86	606	19.31	1,297	41.33	3,138	58.59
Vaithiri	3,885	186	9.07	397	19.36	390	19.02	1,078	52.56	2,051	52.79
Vellamunda	8,501	1,377	29.24	316	6.71	640	13.59	2,377	50.47	4,710	55.41
Vengapalli	2,691	592	35.32	152	9.07	291	17.36	641	38.25	1,676	62.28
Total	178,572	32,537	31.66	7,926	7.71	24,511	23.85	37,788	36.77	102,762	57.55

*ST: Scheduled Tribe; SC: Scheduled Caste; General: Forward Caste; Other Minority Groups: All other groups.

Source: JICA Survey Team (2014) based on BPL Survey 2009

(3) Inequality

The Kerala Perspective Plan Vision 2030 (LSGD, Kerala) has reported a significant decline in the poverty rate in Kerala between 1993-94 and 2011-12 and extracted five major contributing factors to the rapid decline in the poverty incidences: i) progress in social development – increase in the wages by the labour unions, and state sponsored redistribution programmes; ii) improvement in human capabilities – enhanced education, health and in other related areas; iii) considerable amount of incoming remittance from the Gulf countries; iv) smaller household size; and v) growth of tertiary sector that has absorbed the agriculture labourers. However, the same document also pointed out that such development has not been equally seen across the state by quoting the Gini Coefficient which indicates the inequality in economic status. In the rural Kerala's Gini Coefficient was estimated to be 0.4 and the same for urban area was 0.5.

6.4 Health**(1) Health Indicators**

Kerala shows good achievement in the health sector. Infant mortality rate of Kerala is significantly lower than that of India as a whole. The medical institutions are well placed in Kerala. However, the shortage of the health workers to be stationed at Primary Health Centre or Sub-Centres has been an issue.

¹⁶ In the BPL Survey 2009, the term “family” was used instead of “household”. However, “household” is also used throughout the survey as a synonym.

Health Indicators of Kerala

Indicator	Kerala	India
Infant Mortality rate (SRS 2011)	12	44
Maternal Mortality Rate (SRS 2007-09)	81	212
Total Fertility Rate (SRS 2011)	1.8	2.4
Crude Birth Rate (SRS 2011)	15.2	21.8
Crude Death Rate (SRS 2011)	7	7.1
Sex Ratio (Census 2011)	1084	940
Child Sex Ratio (Census 2011)	959	914

Note: SRS- Sample Registration System- registered samples will provide the data on a regular basis.

Source: National Rural Health Mission¹⁷

(2) Health Services in Wayanad

In Wayanad, seven health programmes are implemented including Reproductive and Child Health Programme, National Tuberculosis Control Programme, National Leprosy Eradication Programme, etc. through District Medical Office and National Rural Health Mission.

The health care and medical facilities are established at different levels. The lowest establishment is a sub- centre, primary health centre (PHC) and community health centre (CHC). Thaluk Hospital is established at Thaluk level and receives the patients from the sub-centre and PHC as a referral hospital. The community health centre covers a larger population than the sub-centre and primary health centre and is equipped with medical equipments to undertake specific treatment. It will assess the condition of patients for referral to the District Hospital. The outline of each type of health and medical institution is given below.

The Types and Number of Health and Medical Institutions in Wayanad

Type of Medical Institution	Description*	Number of Institution**
District Hospital	<ul style="list-style-type: none"> ➤ Under the management of state government ➤ Established one in a district ➤ Equipped with 101-500 beds ➤ Secondary level referral centre from Primary Health Centre, Sub Centre and Community Health Centre. ➤ Provides general medical services and surgery ➤ To serve 85-95% of the medical needs in the district. 	1
Thaluk Hospital	<ul style="list-style-type: none"> ➤ Established in Thaluk level ➤ Functions as a referral institution below Thaluk level ➤ 31—100 bedded ➤ Provides general medical services and surgery 	2
Community Health Centre	<ul style="list-style-type: none"> ➤ Established for every 80,000 – 120,000 population. Equipped with 30 beds and facilities to undertake specified services in surgery, paediatrics, gynaecology and obstetrics and public health. 	9
Primary Health Centre (24x7) ¹⁸	<ul style="list-style-type: none"> ➤ Established for every 30,000 population (20,000 population in Tribal and hilly area) ➤ Opens round the clock to provide emergency services ➤ Provides essential services both outpatient and inpatient ➤ Referral services ➤ Six beds of inpatient 	8
Primary Health Centre	<ul style="list-style-type: none"> ➤ Established for every 30,000 population (20,000 population in Tribal and hilly area) ➤ Provides essential services both outpatient and inpatient ➤ Referral services ➤ Six beds of inpatient 	14

¹⁷ http://nrhm.gov.in/nrhm-in-state/state-wise-information/kerala.html#state_profile

¹⁸ Primary Health Centre opens 24 hours a day for 7 days a week.

Type of Medical Institution	Description*	Number of Institution**
Sub Centre	<ul style="list-style-type: none"> ➤ Established for every 5,000 population (3,000 population in tribal and hill area) ➤ First contact point for any medical help. Male and female health workers are stationed. 	204
Private Clinics /Hospitals	<ul style="list-style-type: none"> ➤ Established and managed by private medical personnel 	76

Source *: India Public Health Standards; Source **: District Medical Office (2014)

In addition, field activities are conducted by the District Medical Office for Reproductive Child Health, Public Health and by the Tribal Mobile Units. The cumulative number of camps and the number of patients attended is given in the table below.

The Number of Medical Camps conducted and Patients Attended between 2010-11 and 2013-14

Year	Number of Mobile Units	Number of Camps conducted		Number of Patients Attended			
		Routine	Special	Male	Female	Children	Total
2013-14	7	1,392	4	13,461	23,776	7,758	44,995
2012-13	7	1,132	7	11,963	24,137	6,536	42,636
2011-12	6	642	5	6,454	12,127	4,671	23,252
2010-11	5	772	0	9,647	18,157	5,734	33,538

Source: District Medical Office, 2014

(3) National Rural Health Mission (NRHM - Arogyakeralam)

School Health Programme is implemented through NRHM in Wayanad covering all the government and government aided schools (310 schools). School Health Nurse to look after the health of children. 53 nurses are deployed by the NRHM to conduct regular visits to schools. The activities include school hygiene monitoring, health education and health checkups for children. Medical camps are also conducted.

(4) Anganwadi

Anganwadi (Courtyard Shelter) centres are established to improve the child and maternal health and to provide early childhood education. In Wayanad, 882 Anganwadi centres and 42 mini Anganwadi centres are established.

Anganwadi centres are established according to the population of the locality as per the guideline set by the Integrated Child Development Services (ICDS) under the Ministry of Child and Women Development. In the case of Wayanad, including Kalpetta Municipality, rural criteria are applied. In the tribal area, a separate set of criteria is applied in establishing an Anganwadi centre. The criteria for establishing Anganwadi is shown below.

Criteria for Establishing Anganwadi Centre

Rural		Tribal / Hilly/ Other Difficult Areas	
Population	No. of Anganwadi/ mini Anganwadi	Population	No. of Anganwadi/ mini Anganwadi
150-400	1 mini Anganwadi	150 – 300	1 mini Anganwadi
400 -800	1 Anganwadi	300 – 800	1 Anganwadi
800-1600	2 Anganwadi		
1600 – 2400	3 Anganwadi		
Above 2400	1 Anganwadi for every 800		

Source: JICA Survey Team (2014) based on Integrated Child Development Services, Ministry of Child and Women Development¹⁹.

¹⁹ <http://wcd.nic.in/icds.htm> (Accessed on 27th August 2014)

ICDS at the district level functions under the Department of Social Welfare of Wayanad district. In each *Anganwadi* centre, there are one *Anganwadi* teacher and helper whereas in mini *Anganwadi* centre is placed with one teacher.

(5) Total Sanitation Programme

Total Sanitation Programme was introduced in 1999 with an objective to “eradicate open defecation”. The programme include the following sub-programmes: financing the construction of individual household latrines, community sanitary complex, and *Anganwadis* toilets. School sanitation and hygiene education sub-programme is directly implemented by the Office of the District Coordinator of Total Sanitation Mission in Wayanad. This is a joint funding scheme by the state and central government. The state share constitutes 20% of the total financing.

6.5 Education

6.5.1 Literacy

The literacy rate of Kerala is 93.91%. That of Wayanad district is 89.32% (92.84% for male and 85.94% for female. Both in Kerala and Wayanad, the literacy rates are above the national average which is 73.00% for all India, 80.90% for male and 64.60% for female (Census 2011).

Literacy Rates in Wayanad

Panchayat	Male		Female		Total	
	Persons	%	Persons	%	Persons	%
Thirunelly	10,797	84.78%	10,103	75.18%	20,900	79.85%
Mananthavady	19,621	94.01%	19,506	88.89%	39,127	91.38%
Thavinhal	16,280	93.11%	15,671	86.96%	31,951	89.99%
Thondernad	9,302	92.62%	8,584	83.92%	17,886	88.23%
Edavaka	13,997	94.52%	13,312	88.72%	27,309	91.60%
Vellamunda	16,109	93.43%	15,027	83.64%	31,136	88.43%
Panamaram	18,440	91.97%	17,133	84.17%	35,573	88.04%
Kottathara	6,724	92.85%	6,368	84.75%	13,092	88.72%
Kaniambetta	13,634	93.01%	13,071	85.94%	26,705	89.41%
Muttil	13,863	92.32%	13,773	85.57%	27,636	88.83%
Padinharethara	10,166	93.10%	9,931	84.15%	20,097	88.45%
Vengappally	4,622	91.91%	4,521	84.11%	9,143	87.88%
Thariyode	4,780	92.94%	4,588	86.45%	9,368	89.65%
Pozhuthana	6,907	90.92%	6,895	82.32%	13,802	86.41%
Vythiri	7,324	93.87%	7,346	87.36%	14,670	90.49%
Meppady	14,856	92.57%	14,635	84.96%	29,491	88.63%
Muppainad	9,856	93.69%	9,620	85.80%	19,476	89.62%
Pulpalli	13,667	90.88%	13,251	85.72%	26,918	88.27%
Poothadi	16,318	92.07%	15,729	86.83%	32,047	89.42%
Mullenkolly	11,860	93.81%	11,573	90.17%	23,433	91.98%
Sulthan Bathery	18,414	93.16%	18,198	88.28%	36,612	90.67%
Noolpuzha	10,522	87.57%	9,914	78.71%	20,436	83.04%
Nenmeni	19,028	93.14%	18,689	86.46%	37,717	89.70%
Ambalavayal	14,332	93.25%	14,102	87.42%	28,434	90.26%
Meenangadi	13,948	93.44%	13,163	86.94%	27,111	90.16%
Total	315,367	92.45%	304,703	85.59%	620,070	88.95%

Source: JICA Survey Team (2014) based on Census 2011, Census of India.

6.5.2 Formal Education

The formal education of India comprises of Lower Primary (LP/ 1st to 4th Standards), Upper Primary (UP/ 5th to 7th Standards), Secondary (8th – 10th Standards) and Higher Secondary (11th and 12th Standards). Schools can be established by the government as well as private entities.

(1) Lower Primary School

In Kerala, the number of students enrolled at schools has been on the decline. This is partly due to the decline in the number of children in Kerala. In 2013-14, 1.24 million children were enrolled in the Lower Primary Schools. There is no significant gap between the enrolment of boys and girls in all the districts. In 2011-12, the highest dropout rate was recorded in Thiruvananthapuram (4.87%) followed by Kollam and Palakkad.

Lower Primary (I-IV) Enrolment, Boys/ Girls Ratio (2013-14) and Dropout Rates (2011-12) in Kerala

District	Lower Primary (1-IV)				
	No of Boys	No of Girls	Total	Boys/ Girls Ratio	Drop Out (%) (2011-12)
Thiruvananthapuram	47,300	48,540	95,840	0.97	4.87%
Kollam	39,161	39,489	78,650	0.99	2.62%
Pathanamthitta	12,855	12,916	25,771	1.00	1.72%
Alappuzha	27,465	28,320	55,785	0.97	0.78%
Kottayama	27,965	27,426	55,391	1.02	0.96%
Idukki	16,622	16,278	32,900	1.02	2.01%
Ernakulam	42,732	43,767	86,499	0.98	1.17%
Thrissur	52,922	53,466	106,388	0.99	0.64%
Palakkad	58,291	58,820	117,111	0.99	2.36%
Malappuram	131,449	128,734	260,183	1.02	0.76%
Kozhikode	64,343	64,280	128,623	1.00	0.68%
Wayanad	20,144	19,050	39,194	1.06	1.67%
Kannur	48,555	47,980	96,535	1.01	0.62%
Kasaragod	30,782	30,488	61,270	1.01	1.47%
Total	620,586	619,554	1,240,140	1.00	1.52%

Source: JICA Survey Team (2014) based on Economic Review 2013, Kerala State Planning Board; Appendix 4.10, 4.12.

(2) Upper Primary School

In 2013-14, 1.20 million children were enrolled in Upper Primary Schools in Kerala. Boys' enrolment is slightly higher in this level except in Thiruvananthapuram where the number of girls enrolled in upper primary schools was higher than that of boys. The dropout rate in 2011-12 was considerably low but recorded the highest in Thiruvananthapuram (2.15%) followed by Wayanad (1.61%) and Kollam (1.46%).

Upper Primary (V-VII) Enrolment, Boys/ Girls Ratio (2013-14) and Dropout Rates (2011-12) in Kerala

District	Upper Primary (V-VII)				
	No of Boys	No of Girls	Total	Boys/ Girls Ratio	Drop Out (%) (2011-12)
Thiruvananthapuram	48,910	49,897	98,807	0.98	2.15%
Kollam	41,451	41,095	82,546	1.01	1.46%
Pathanamthitta	15,208	14,503	29,711	1.05	0.53%
Alappuzha	30,857	30,639	61,496	1.01	0.74%

District	Upper Primary (V-VII)				
	No of Boys	No of Girls	Total	Boys/ Girls Ratio	Drop Out (%) (2011-12)
Kottayama	28,140	27,769	55,909	1.01	0.38%
Idukki	18,373	16,943	35,316	1.08	0.69%
Ernakulam	44,034	43,608	87,642	1.01	0.44%
Thrissur	50,480	49,881	100,361	1.01	0.40%
Palakkad	58,389	57,667	116,056	1.01	0.96%
Malappuram	118,022	112,431	230,453	1.05	0.46%
Kozhikode	62,892	61,429	124,321	1.02	0.24%
Wayanad	19,327	18,361	37,688	1.05	1.61%
Kannur	45,467	44,675	90,142	1.02	0.30%
Kasaragod	27,137	26,088	53,225	1.04	0.98%
Total	608,687	594,986	1,203,673	1.02	0.76%

Source: JICA Survey Team (2014) based on Economic Review 2013, Kerala State Planning Board; Appendix 4.10, 4.12.

(3) Dropouts in Lower and Upper Primary Schools by Social Group

The number of pupils who have dropped out at the Lower and Upper Primary levels in Wayanad were 431 in 2013-14 according to the data provided by the Education Department of Wayanad district. From the table below, it is evident that the number of pupils who have dropped out of school is higher in the Upper Primary level than the Lower Primary Level. Gender wise, the number of boys dropped out is higher than that of girls for both Lower and Upper Primary Level.

The highest number of dropouts was seen among the ST boys and girls. Panchayat wise Mananthavady, Thavinal, Vellamunda, and Kaniambetta Panchayats are showing higher number of dropouts in comparison to the rest of the Panchayats in Wayanad. The number of dropouts in UP is higher than that of LP.

The Number of Dropout Children in Lower and Upper Primary Schools by different social groups in Wayanad (2013-14)

Social Group	Gender	School Category				Total
		Lower Primary (1st - 4th)		Upper Primary (5th - 7th)		
		Government	Aided	Government	Aided	
SC	Boys	1	8	4	5	18
	Girls	1	0	1	2	4
ST	Boys	31	39	53	38	161
	Girls	20	26	59	30	135
OBC	Boys	0	2	4	6	12
	Girls	2	3	4	2	11
Muslim	Boys	7	2	16	12	37
	Girls	4	8	12	15	39
Christian	Boys	0	4	0	2	6
	Girls	1	2	3	2	8
Other Minority Group	Boys	0	0	0	0	0
	Girls	0	0	0	0	0
Total		67	94	156	114	431

Source: JICA Survey Team (2014) based on the Data obtained from the Education Department, Wayanad district (2014).

(4) Dropouts between 8th and 10th Standards

The number of students enrolled in high school was 1.41 million in 2010-11. The number of boys enrolled in the high school was slightly higher than that of girls except Pathanamthitta. The dropout rate in Kerala was 0.86%. Among the districts, Wayanad indicated the highest high school dropouts (2.51%) followed by Idukki (1.54%).

High School (VIII-X) Enrolment, Boys/ Girls Ratio (2013-14) and Dropout Rates (2011-12) in Kerala

District	High School (VIII - X)				
	No of Boys	No of Girls	Total	Boys/ Girls Ratio	Drop Out (%) (2011-12)
Thiruvananthapuram	60,557	60,663	121,220	1.00	1.26%
Kollam	51,253	49,320	100,573	1.04	0.68%
Pathanamthitta	19,189	20,607	39,796	0.93	0.52%
Alappuzha	40,033	38,355	78,388	1.04	0.89%
Kottayama	34,674	34,571	69,245	1.00	0.77%
Idukki	21,718	19,903	41,621	1.09	1.54%
Ernakulam	57,053	55,131	112,184	1.03	0.68%
Thrissur	62,349	59,495	121,844	1.05	0.85%
Palakkad	67,863	64,328	132,191	1.05	1.27%
Malappuram	124,524	116,708	241,232	1.07	0.56%
Kozhikode	72,940	69,768	142,708	1.05	0.42%
Wayanad	19,314	18,767	38,081	1.03	2.51%
Kannur	54,994	52,114	107,108	1.06	0.63%
Kasaragod	31,683	29,828	61,511	1.06	1.24%
Total	718,144	689,558	1,407,702	1.04	0.86%

Source: JICA Survey Team (2014) based on Economic Review 2013, Kerala State Planning Board; Appendix 4.10, 4.12.

In the secondary education level, dropouts among ST boys and girls are high. According to the Education Department of Wayanad, ST students are likely to migrate with parents for work and thus, their education is interrupted.

The Number of Dropouts (8th – 10th Standard) by different social groups in Wayanad

School Category	No of Schools	SC		ST		OBC		Muslim		Christian		Other Minority	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Government High School	25	1	1	80	59	2	0	8	3	2	0	0	0
Government Higher Secondary School	24	9	5	306	144	12	2	31	10	4	4	0	0
Government Vocational Secondary School	7	1	2	41	27	8	1	0	0	1	0	0	0
Aided High School and Higher Secondary School	23	14	7	96	76	12	9	19	5	1	2	0	0
Aided Special School	2	0	0	0	0	0	0	0	0	0	0	0	0
Model Residential School	5	0	0	0	1	0	0	0	0	0	0	0	0
Un Aided High School & Higher Secondary School	5	0	0	0	0	0	0	0	0	0	0	0	0
Total	91	25	15	523	307	34	12	58	18	8	6	0	0

*SC: Scheduled Caste; ST: Scheduled Tribe; OBC: Other Backward Class; Other Minority includes all other social groups.

Source: JICA Survey Team (2014) based on the Data obtained from the Education Department, Wayanad district (2014).

Formal education system is comprised of the 1st to 4th Standard (Lower Primary), 5th to 7th Standard (Upper Primary), 8th to 10th Standard (High School/ Secondary School Leaving Certificate), and Senior Secondary covering 11th and 12th Standard (Higher Secondary Exam). After 12th Standard, the tertiary education system is established.

(5) School Facilities

Availability of Drinking Water Facilities

In 2012-13, there were 6,768 Lower Primary Schools, 2,969 Upper Primary Schools, and 1,105 High Schools in Kerala. Out of these schools, drinking water facilities were available in 37.96% of the Lower Primary, 29.91% in Upper Primary and 38.24% in High School. In Wayanad, drinking water facilities are available in 65.08% of LP, 38.24% of UP and 65.00% of HS.

Availability of Drinking Water Facilities (2013)

District	Total No of Schools			With Drinking Water					
	LP	UP	HS	LP		UP		HS	
Unit	Schools			Schools	%	Schools	%	Schools	%
Thiruvananthapuram	506	220	263	304	60.08%	97	44.09%	126	47.91%
Kollam	484	215	228	278	57.44%	64	29.77%	85	37.28%
Pathanamthitta	423	143	168	165	39.01%	42	29.37%	50	29.76%
Alappuzha	410	155	198	200	48.78%	68	43.87%	62	31.31%
Kottayama	454	201	252	172	37.89%	60	29.85%	65	25.79%
Idukki	225	95	156	88	39.11%	30	31.58%	75	48.08%
Ernakulam	477	214	314	186	38.99%	94	43.93%	87	27.71%
Thrissur	518	230	261	117	22.59%	55	23.91%	82	31.42%
Palakkad	557	219	196	193	34.65%	41	18.72%	84	42.86%
Malappuram	852	366	254	349	40.96%	111	30.33%	86	33.86%
Kozhikode	720	326	191	170	23.61%	66	20.25%	71	37.17%
Wayanad	143	68	80	93	65.03%	26	38.24%	52	65.00%
Kannur	729	373	189	114	15.64%	74	19.84%	90	47.62%
Kasaragod	270	144	140	140	51.85%	60	41.67%	90	64.29%
Total	6,768	2,969	2,890	2,569	37.96%	888	29.91%	1,105	38.24%

Source: Directorate of Public Instruction in Economic Review 2013, State Planning Board Kerala. Vol II. Appendix 4.7. Compiled by JICA Survey Team. * LP=Lower Primary; UP=Upper Primary; HS=High School.

Availability of Urinal/Latrines

Latrines and urinal facilities were not available in all the schools of all the stages. These facilities were available in 38.27% of the Lower Primary Schools, 30.58% of Upper Primary Schools, and 38.24% of the High Schools. In Wayanad, 65.03% of LP, 38.24% of UP and 65% of HS have urinals and latrines. While the school health programme is conducted to improve the health and hygiene condition of pupils and students in Wayanad, the facilities are not adequately provided in the school premises. The number of school having no urinals/ latrines is high in the Upper Primary Schools and needs urgent attention.

Availability of Urinal/ Latrines (2013)

District	Total No of Schools			With Urinals/ Latrines					
	LP	UP	HS	LP		UP		HS	
Unit	Schools			Schools	%	Schools	%	Schools	%
Thiruvananthapuram	506	220	263	305	60.28%	99	45.00%	126	47.91%
Kollam	484	215	228	277	57.23%	64	29.77%	85	37.28%
Pathanamthitta	423	143	168	167	39.48%	43	30.07%	50	29.76%
Alappuzha	410	155	198	199	48.54%	68	43.87%	62	31.31%
Kottayama	454	201	252	173	38.11%	62	30.85%	65	25.79%
Idukki	225	95	156	92	40.89%	31	32.63%	75	48.08%
Ernakulam	477	214	314	184	38.57%	94	43.93%	87	27.71%
Thrissur	518	230	261	119	22.97%	55	23.91%	82	31.42%
Palakkad	557	219	196	195	35.01%	44	20.09%	84	42.86%
Malappuram	852	366	254	349	40.96%	111	30.33%	86	33.86%
Kozhikode	720	326	191	179	24.86%	75	23.01%	71	37.17%
Wayanad	143	68	80	93	65.03%	26	38.24%	52	65.00%
Kannur	729	373	189	115	15.78%	74	19.84%	90	47.62%
Kasaragod	270	144	140	143	52.96%	62	43.06%	90	64.29%
Total	6,768	2,969	2,890	2,590	38.27%	908	30.58%	1,105	38.24%

Source: Directorate of Public Instruction in Economic Review 2013, State Planning Board Kerala. Vol II. Appendix 4.7.
Compiled by JICA Survey Team. * LP=Lower Primary; UP=Upper Primary; HS=High School.

6.5.3 Non Formal Education

Kerala State Literacy Mission conducts “equivalency programme” to provide learning opportunities for the new literates. It allows the learners to obtain a formal recognition equivalent to the 4th, 7th and 10th Standards after completing a set of programmes and passing an exam. Across all levels, female learners are the majority. Especially for the 4th and 7th Standard programmes, the proportion of female learners is 81.93% and 98.00%, respectively.

In Wayanad, 68 centres are established and 72 Promoters (*Peraks*) are functioning. In FY 2013-14, Rs. 800,000 has been spent on equivalency programmes. Currently, 1,540 learners are registered for 7th standard equivalency programme. Legal literacy programme is also conducted by the Promoters.

Chapter 7 Livelihoods of BPL Households in Wayanad

7.1 Socio-Economic Survey of BPL Households in Wayanad

As reviewed in **Annex 4 of Volume III**, the characteristics of the livelihood of BPL households in Wayanad district based on the PRA exercises and review of the secondary data are summarised below.

Characteristics of Livelihood Pattern of BPL Households in Wayanad

- i) Highly dependent on daily wage labour
- ii) Seasonal fluctuation of income
- iii) Limited access to productive asset - agriculture land
- iv) Common mitigation measures – taking loan from various sources and working at MGNREGA works

Source: JICA Survey Team (2014)

In this section, current livelihood conditions of the BPL households are presented based on the socio-economic survey conducted in 50 wards in 25 Panchayats by the JICA Survey Team in May 2014¹. The total number of households surveyed was 1,001. The data have been tabulated by social groups of SC, ST, OBC and General, which is comprised of the social groups other than the former three social groups, and gender of the head of households. The extrapolated data and report by the subcontracting agency is in **Annex 11 of Volume III**.

7.2 Demography of BPL Households in Wayanad

7.2.1 Demography of Sample Households

The total population of the sample households (HHs) was 4,296 persons. Male-Female Ratio was 1:1.04. The average household size was 4.29 persons per HH.

Population of the Sample HHs

Unit: persons

Age Group	SC		ST		OBC		General		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0-6	19	23	59	50	60	65	27	38	165	176
7-14	24	35	115	94	102	105	65	44	306	278
15-24	35	37	113	121	155	168	89	73	392	399
25-34	34	38	100	103	129	123	89	69	352	333
35-44	34	29	97	105	117	149	78	83	326	366
45-54	28	28	70	72	91	105	75	87	264	292
55-64	15	15	48	47	76	71	49	49	188	182
65+	8	8	35	41	29	55	39	55	111	159
Total	197	213	637	633	759	841	511	498	2,104	2,185

Source: Socio Economic Survey, JICA Survey Team (2014)

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

¹ The questionnaire was developed by JICA Survey Team and reviewed jointly with the local experts. Two wards were selected from each Panchayats randomly. The list of BPL households from the BPL Survey 2009 was used to generate the ward wise list of sample households. Simple Random Selection method was adopted for sampling. In total 1,001 households were selected.

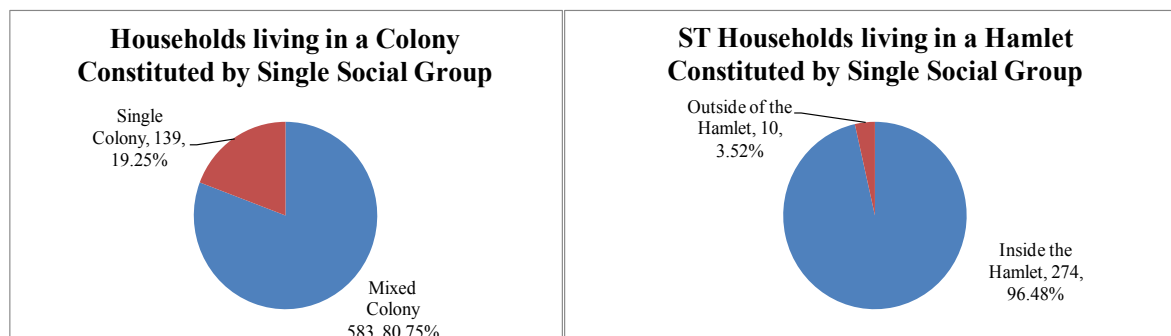
7.2.2 Number of BPL Households by Social Groups

Out of the total sample HHs, 36.56% or 366 HHs were OBC category, followed by ST Category with 284 or 28.37% of the HHs. General category BPL HHs, comprised of the social groups other than SC, ST and OBC, accounted for 257 HHs or 25.67% of the total sample HHs. 94 HHs or 9.39% of the HHs were SC category. Among the Panchayats, Noolpuzha Panchayat indicated the highest concentration of ST BPL HHs (84.78% of the total sample HHs in the Panchayat). The same for OBC was seen in Muppainad (74.19% of the total sample HHs in the Panchayat). The Panchayat wise sample HHs by social group are attached in **Annex 11-2**.

The majority of the sampled HHs identified themselves as Hindu. Muslims were 195 HHs or 19.48% of the total number of sample HHs. Christians were 142 HHs or 14.19% of the total sample HHs. Panchayat wise number of HH by religious group is given in **Annex 11-2**.

7.2.3 Settlement Pattern

Out of 1,001 sample HHs, 722 HHs or 72.13% out of the total HHs live outside of the tribal hamlet. 279 HHs or 27.87% HHs live inside the tribal hamlet, which is 98.24% of the total number of ST HHs. The average duration of settlement in the area was 40.61 years. The majority of HHs living outside of the tribal hamlet live in the colonies constituted by more than one social group. The duration of dwelling of the HHs living outside the tribal hamlet was 29.12 years on an average.

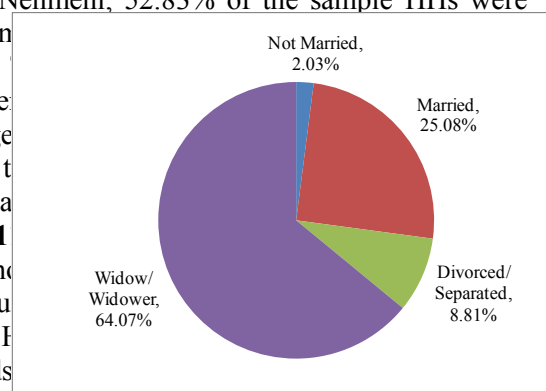


Source: Socio Economic Survey, JICA Survey Team (2014)

Some of the reasons for ST HHs settling outside of the tribal hamlets include; not having land inside the tribal hamlet; resettled by government; or acquired land through land strikes.

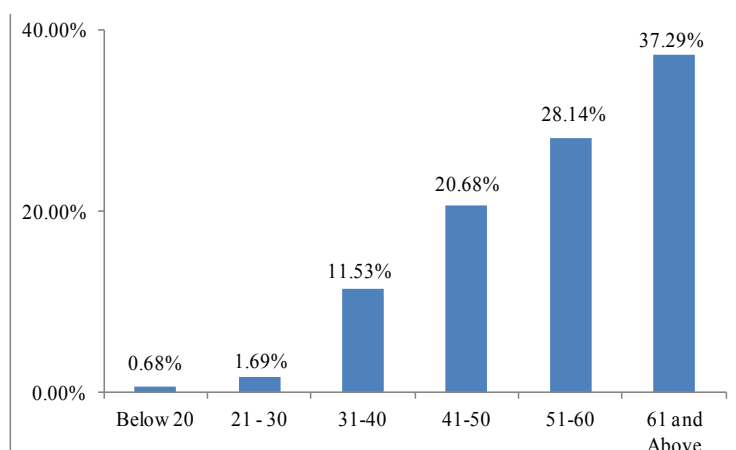
7.2.4 Head of Households

Among the sample HHs, 706 or 70.53% of the sample HHs were headed by men, while 295 or 29.47% of the sample HHs were female headed. In Nenmeni, 52.83% of the sample HHs were headed by female, which was the highest share of Female Headed Households (FHHs) in 25 Panchayats. A comparison of the number of FHHs between different Social Groups indicated that the highest percentage of FHHs belong to OBC with 100 or 36.95% of the total FHHs. Panchayat wise number of Male Headed Households (MHHs) and FHHs is given in **Annex 11-3**. Out of the 295 FHHs, 64.07% or 189 heads of households were widows. 74 persons or 25.08% indicated the status "married". The average age of the female heads of households was 56.47 years old. 34.58% of the female heads of households are below 50 years old.



Households

Source: Socio Economic Survey, JICA Survey Team (2014)

**Age Groups of Female Heads of Households**

Source: Socio Economic Survey, JICA Survey Team (2014)

7.3 Socio Economic Condition

7.3.1 Education Status of Heads of Households

Education background of the heads of the HHs is summarised below. Nearly half of the male and female heads of HHs have gone through to Lower Primary and Upper Primary level education. 22% of the male heads of HHs have done secondary education whereas the same for the female heads of HHs was only 8.14%. The likelihood of female heads of HHs being non literate is higher than male HH heads. 33.56% or 99 persons out of 295 female heads of HHs are non literate. On the other hand, the number of female heads of HH who become literate through non-formal education is nearly double the number of male counterparts.

Educational Background of Heads of Households

Education Background	Male Heads of Households		Female Heads of Households		Total	
	Persons	%	Persons	%	Persons	%
Kindergarten/ Anganwadi	20	2.83%	10	3.39%	30	3.00%
LP	219	31.02%	74	25.08%	293	29.27%
UP	183	25.92%	70	23.73%	253	25.27%
Secondary	156	22.10%	24	8.14%	180	17.98%
Higher Secondary	16	2.27%	5	1.69%	21	2.10%
College and above	4	0.57%	1	0.34%	5	0.50%
Non literate	97	13.74%	99	33.56%	196	19.58%
Literate through non-formal Education	11	1.56%	12	4.07%	23	2.30%
Total	706	100.00%	295	100.00%	1,001	100.00%

Source: Socio Economic Survey, JICA Survey Team (2014)

Age group wise distribution of non literate female heads of HH is given below. As seen, half of the non literate female heads of HH belong to the age group of 61 years old and above. It should also be noted that the lower age group between 21-30 and 31-40 are less in number yet the percentage is high. While designing interventions for female heads of HHs, literacy will be done through the day to day project activities while linking them to the existing literacy programmes of State Literacy Mission.

Age Group wise Distribution of Non Literate Female Heads of Households

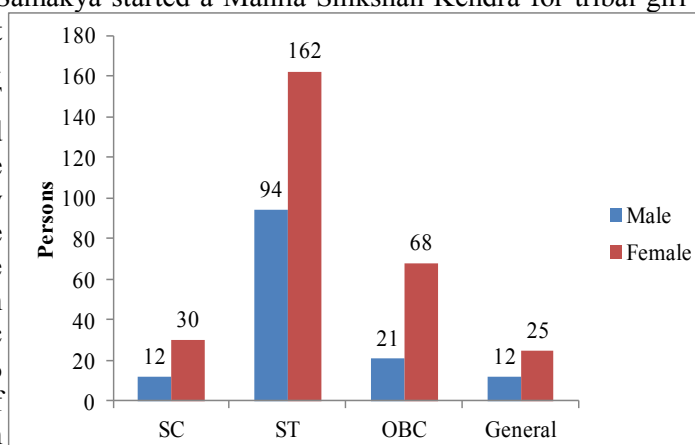
Age Group	Total Number of Female Heads of Households	Number of Non Literate Female Heads of Household	% to Age Group Total
Below 20	2	0	0.00%
21 – 30	5	1	20.00%
31-40	34	8	23.53%
41-50	61	11	18.03%
51-60	83	24	28.92%
61 and Above	110	55	50.00%
Total	295	99	33.56%

Source: Socio Economic Survey, JICA Survey Team (2014)

7.3.2 Educational Background of the Sample Households**(1) Literacy**

Non literacy rate was calculated for the population above 6 years old. The non literacy rate for overall population was 7.17% for male and 14.14% for female. In most of the Panchayats, female non literacy rate is higher than that of male. Percentage wise, the widest gap in literacy rates were observed in Pulpalli Panchayat. Panchayat – social group wise non literacy rate is given in **Annex 11.2 of Volume III**.

Social Group wise, non literacy among ST was high. Particularly, ST women indicated the highest number of non literate persons. Literacy programmes are conducted by State Literacy Mission along with bridge programmes. Mahila Samakya started a Mahila Shikshan Kendra for tribal girl drop outs. ST Development Department provides scholarships for ST students. However, the non-literacy rate among ST is still remains high. The field observations indicated that a part of the reason is the mother languages especially Adiya, Paniya and Kuttunaikka are different from Malayalam, which pose difficulties for them to learn in Malayalam. In fact, the Socio Economic Survey results also showed that 91.37% of the male non literates and 90.53% of female non literates can speak in Malayalam but cannot read and write in the same. Further, the on-going literacy programmes were also said to have been unable to involve ST population due to the limitations in resources.

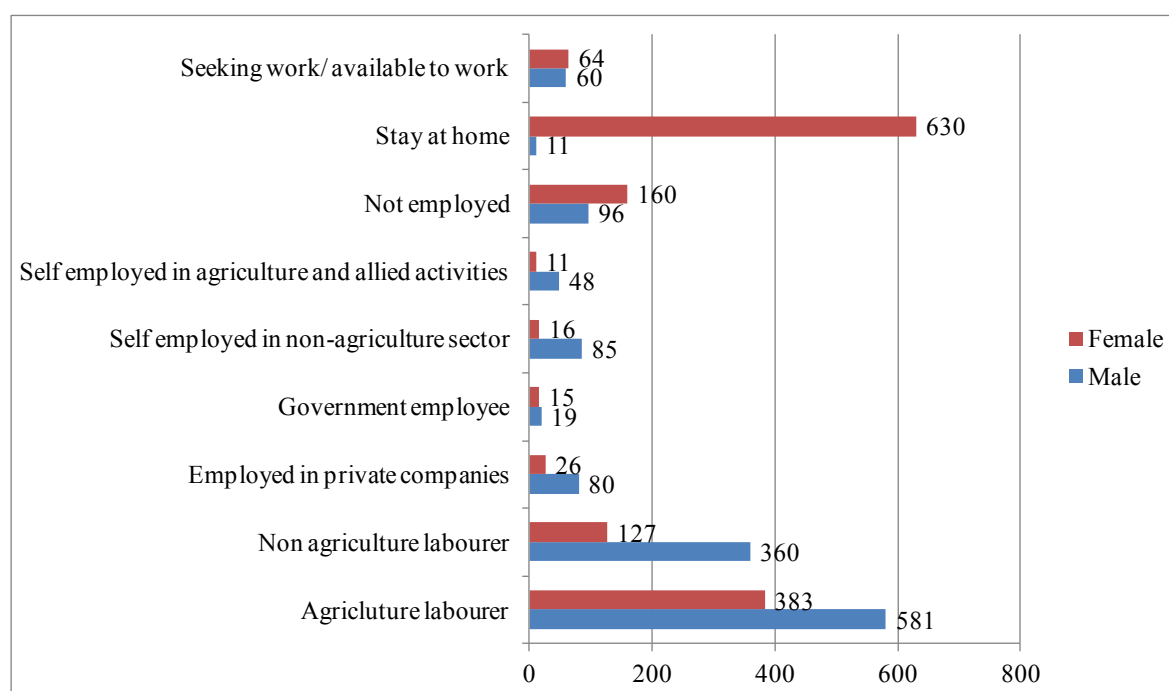
**Number of Non Literate Persons by Social Group**

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.3.3 Economic Activities**(1) Economic Activities**

The total number of male and female work population was 1,340 persons and 1,432 persons respectively, which accounted for 36.31% of the total male population and 34.67% of the total female population. The overall composition of the work force indicated that the 43.36% of men are engaged in agriculture labour and 26.87% for the non-agriculture labour. This makes up 70.00% of the total male work force. On the other hand, 43.99% of the women are stay at home/ house wives and 26.75% of women are engaged in agriculture labour and 8.87% of women are engaged in non-agriculture labour.



Source: Socio Economic Survey, JICA Survey Team (2014)

Livelihood Activities of Male and Female

The number of men who are self employed in non-agriculture sector is slightly higher among OBC and General population. Wage rates range between Rs. 276 and Rs. 319 per day with an average of Rs. 298 per day. The highest wage is stated by the General category men and least wage was earned by SC men.

Livelihood Activities of Male Population by Social Group

Livelihood Activities	SC		ST		OBC		General		Total
	Persons	% to Total of Social Group	Persons	% to Total of Social Group	Persons	% to Total of Social Group	Persons	% to Total of Social Group	
Agriculture labourer	67	52.76%	216	52.17%	170	37.04%	128	37.65%	581
Non agriculture labourer	28	22.05%	96	23.19%	154	33.55%	82	24.12%	360
Employed in private companies	6	4.72%	4	0.97%	42	9.15%	28	8.24%	80
Government employee	2	1.57%	10	2.42%	3	0.65%	4	1.18%	19
Self employed in non-agriculture sector	8	6.30%	8	1.93%	35	7.63%	34	10.00%	85
Self employed in agriculture and allied activities	2	1.57%	14	3.38%	13	2.83%	19	5.59%	48
Not employed	11	8.66%	44	10.63%	21	4.58%	20	5.88%	96
Stay at home	0	0.00%	2	0.48%	4	0.87%	5	1.47%	11
Seeking work/ available to work	3	2.36%	20	4.83%	17	3.70%	20	5.88%	60
Total	127	100.00%	414	100.00%	459	100.00%	340	100.00%	1,340

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

35.54% of General category women stay at home. Wages of women range between Rs. 191 to 200 per day with an average of Rs. 192. SC women indicated the highest wage of Rs. 200, whereas OBC women indicated the lowest wage of Rs. 190 per day.

Livelihood Activities of Female Population by Social Group

Livelihood Activities	SC		ST		OBC		General		Total
	Persons	% to Total of Social Group	Persons	% to Total of Social Group	Persons	% to Total of Social Group	Persons	% to Total of Social Group	
Agriculture labourer	50	36.76%	150	36.32%	103	19.04%	80	23.39%	383
Non agriculture labourer	13	9.56%	44	10.65%	50	9.24%	20	5.85%	127
Employed in private companies	7	5.15%	4	0.97%	8	1.48%	7	2.05%	26
Government employee	0	0.00%	3	0.73%	5	0.92%	7	2.05%	15
Self employed in non-agriculture sector	1	0.74%	2	0.48%	7	1.29%	6	1.75%	16
Self employed in agriculture and allied activities	0	0.00%	4	0.97%	3	0.55%	4	1.17%	11
Not employed	18	13.24%	56	13.56%	57	10.54%	29	8.48%	160
Stay at home	46	33.82%	131	31.72%	276	51.02%	177	51.75%	630
Seeking work/ available to work	1	0.74%	19	4.60%	32	5.91%	12	3.51%	64
Total	136	100.00%	413	100.00%	541	100.00%	342	100.00%	1,432

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Economic activities engaged by the heads of the household are given below. The data shows that 49.86% of male heads of HHs and 31.19% of female heads of HHs are engaged in agriculture labour. 22.80% of male heads of HHs and 13.56% of female heads of HHs are engaged in non agriculture labour. 22.37% of female heads of HHs stay at home and 18.64% of female heads of HHs are unable to work.

Livelihood Activities of Heads of Households

Activities	MHH		FHH	
	Number of Heads of HH	%	Number of Heads of HH	%
Agriculture labourer	352	49.86%	92	31.19%
Non Agriculture labourer	161	22.80%	40	13.56%
Employed in private companies	9	1.27%	2	0.68%
Government employee	7	0.99%	3	1.02%
Self Employed in non-agriculture sector	33	4.67%	2	0.68%
Self Employed in agriculture and allied activities	27	3.82%	5	1.69%
Not employed	45	6.37%	27	9.15%
Student	1	0.14%	1	0.34%
Stay at home/ Housewife	3	0.42%	66	22.37%
Seeking work/ available to work	5	0.71%	2	0.68%
Unable to work	63	8.92%	55	18.64%
Total	706	100.00%	295	100.00%

Source: Socio Economic Survey, JICA Survey Team (2014)

(2) Migration

98 men and 61 women responded that they migrated for employment, education and holidays. Work related migration accounted for 61.54% of the male migrants and 33.93% for female. The number of male migrants among OBC and General categories are high. The average duration of migration ranges between 4.71 months to 9.43 months. OBC male earns most through migration (Rs. 65,776) and the SC women the least (Rs. 11,792).

Number of Migrants, Duration of Migration in Months and Average Wages Earned

Unit: Counts of Responses

Particulars	SC		ST		OBC		General		Total	
	M	F	M	F	M	F	M	F	M	F
Migrants	7	5	14	14	42	26	35	16	98	61
Average Duration of Migration (Months)	4.71	5.00	6.50	9.43	9.10	9.31	8.89	7.38	7.30	7.78
Wages	No Response	28,500	29,188	11,792	65,776	63,786	60,909	56,833	51,958	40,228

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Purposes of Migration by Social Group

Unit: Counts of Responses

Purpose of migration	SC		ST		OBC		General		Total	
	M	F	M	F	M	F	M	F	M	F
To earn food grain as wages			1		4	1	2		7	1
To earn higher wages		1	6	3	18	3	16	3	40	10
To reduce burden on household				1			1		1	1
Non-availability of work in village		1	1	2	2	4	2		5	7
To work on relative's farm			1				1		2	0
To meet contractual obligation					1				1	0
Education	3	2	3		12	8	7	8	25	18
Holiday	1		2	6					3	6
Others				2	5	10	2	1	7	13
Total	4	4	14	14	42	26	31	12	91	56

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.3.4 BPL Ration Cards

The sample households were selected out of the BPL List of BPL Survey 2009 conducted by GoI and Local Self Government Department of Kerala. The data indicated discrepancies between the legal documents that they possess and their entitlement. A small proportion of sample households are still holding APL cards given prior to the BPL Survey 2009. Others are given APL cards for some reasons. Some of these households are given a stamp to prove their BPL entitlement by the local authority. However, the reasons for these households still holding or given APL cards could not be understood by the Survey Team during the survey period.

Type of Ration Cards Possessed by the BPL Households

Unit: Number of Households

Type of Documents	MHH		FHH	
BPL Stamp	44	6.23%	25	8.47%
BPL	618	87.54%	255	86.44%
APL	29	4.11%	4	1.36%
BPL&APL	1	0.14%	3	1.02%
No Card	14	1.98%	8	2.71%
Total	706	100.00%	295	100.00%

Source: Socio Economic Survey, JICA Survey Team (2014)

7.4 Land Holding

7.4.1 Household Premises

Out of the surveyed 1,001 HHs, 81 HHs did not own any land for HH premises. In the Male Headed Households (MHHs), 56.23% of the MHHs indicated that the land for HH premises was owned by husbands. Among the FHHs, 46.78% of the female heads of the HHs owned the land whereas 16.61% of FHHs indicated that their spouses still own the land for their homestead.

Ownership of Land – Household Premises

Unit: Number of Households

Owner of Land	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Husband	37	109	150	101	5	12	14	18	397	56.23%	49	16.61%
Wife	9	34	53	39	14	33	55	36	135	19.12%	138	46.78%
Joint Ownership	4	17	27	12	4	10	10	5	60	8.50%	29	9.83%
Others	5	27	9	14	5	10	25	17	55	7.79%	57	19.32%
Do not own land	10	19	18	12	1	13	5	3	59	8.36%	22	7.46%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

The average land area for HH premises among the MHHs was 3.34 cents or 135.16 m² and the same for FHHs was 3.30 cents or 133.55 m². No significant difference was observed. SC MHHs and ST FHHs indicated the smallest average size of the homestead of 2.77 cents or 112.10 m² and 2.69 cents or 108.16 m², respectively.

Area Size of Household Premises

Unit: cents

Particulars	MHH				FHH				Total Average	
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	FHH
Area size	2.77	3.50	3.49	3.59	3.71	2.69	3.51	3.36	3.34	3.30

Note: 1 cent=0.004ha=40.47 m²

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.4.2 Agriculture Land

28.90% of MHH and 28.47% of FHHs do not own agriculture land. The ownership pattern of the agriculture land is similar to that of HH premises and mostly owned by male head of HH.

Ownership of Agriculture Land

Unit: Number of Households

Owner of Land	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Husband	28	78	125	87	2	11	17	18	318	45.04%	48	16.27%
Wife	3	15	44	34	14	18	45	27	96	13.60%	104	35.25%
Joint Ownership	5	11	24	12	2	5	7	5	52	7.37%	19	6.44%
Others	6	13	8	9	4	3	18	15	36	5.10%	40	13.56%
Do not own land	23	89	56	36	7	41	22	14	204	28.90%	84	28.47%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Negligible difference was identified between the land size owned by MHHs and FHHs. On the other hand, the average agriculture land holding disaggregated by social groups indicated that the SC MHHs and FHHs owned the least area for agriculture which was 9.08 cents or 0.037ha and 10.91 cents or 0.044 ha, respectively. Almost no HHs rented in agriculture land.

Average Area size of Agriculture Land

Unit: cents

Particulars	MHH				FHH				Total Average	
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	FHH
Average Size	9.08	17.91	18.05	21.00	10.91	13.63	21.93	18.66	17.93	17.77

Note: 1 cent=0.004ha=40.47 m²

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.5 Access to Basic Amenities

7.5.1 Housing

56.94% of MHHs and 50.51% of FHHs live in pacca house with permanent structure with solid foundation, permanent walls and concrete or tiled roof. 35.13% of MHHs and 42.71% of FHHs have semi-pacca house built with permanent flooring with temporary wall or roof. 49 MHHs and 18 FHHs live in Kacca houses (houses built with temporary materials).

Type of House by Social Groups

Unit: Number of Households

Type of House	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Pacca	30	104	163	105	10	34	61	44	402	56.94%	149	50.51%
Semi-Pacca	31	74	80	63	18	32	42	34	248	35.13%	126	42.71%
Kacca	3	27	12	7	1	12	4	1	49	6.94%	18	6.10%
Others	1	1	2	3	0	0	2	0	7	0.99%	2	0.68%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

Note: Pacca: Permanent structure with solid foundation, permanent walls and concrete or tiled roof; Semi Pacca house – Permanent flooring with temporary wall or roof; Kacca: House with temporary floor wall and roof, mud floor, mud, bamboo or mixed walls, roof thatched with grass, palm leaves, plastic sheets etc.

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

94.96% of the MHHs and 97.97% of FHHs own their houses. 5.24% of MHHs and 2.08% FHHs live in the rented house.

Ownership of the House by Social Groups

Unit: Number of Households

Ownership Status of House	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Owned	59	201	239	170	28	78	107	76	669	94.76%	289	97.97%
Rented	6	5	18	8	1		2	3	37	5.24%	6	2.03%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.5.2 Source of Household Energy**(1) Lighting**

86.26% of MHHs and 83.73% of the FHHs have the electricity connection from the grid. It is also understood from the table below that many HHs are still dependent on Kerosene for lighting. Solar lamp was not common among the respondents. The average monthly electricity charges was Rs. 83.12 for MHHs and Rs. 81.72 for FHHs. Usage of electricity among ST MHHs and FHHs were lower than HHs of other social groups showing Rs. 63.69 for MHHs and Rs. 45.27 for FHHs, respectively. The volume of Kerosene used by MHHs was 0.19 L per week and 0.17 L for FHHs on an average. The usage was higher among the ST HHs by marking 0.22 Litres per week for both ST MHH and FHHs.

Sources of Lighting

Unit: Number of Households

Source of Lighting	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Household Grid Connection	56	139	246	168	27	41	103	76	609	86.26%	247	83.73%
Solar Lamp	1	2	1	1	0	0	0	0	5	0.71%	0	0.00%
Kerosene	51	163	193	127	21	61	85	58	534	75.64%	225	76.27%
Others		3	7	11		3	3	4	21	2.97%	10	3.39%
Total No of Households									706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

(2) Cooking

98.02% of MHHs and 98.64% of FHHs use fuel wood as energy for cooking. Nearly half the HHs also use the gas cylinder. The number of HHs using gas cylinder for cooking is higher among the OBC and General MHHs in comparison to SC and ST HHs.

Sources of Energy for Cooking

Unit: Number of Households

Sources of Energy for Cooking	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Fuelwood	64	206	254	168	29	76	109	77	692	98.02%	291	98.64%
Biogas		3	3	6	1	2	1	1	13	1.84%	5	1.69%
Gas Cylinder	29	23	192	135	12	4	78	54	379	53.68%	148	50.17%
Kerosene	9	62	70	46	8	21	33	19	187	26.49%	81	27.46%
Total No of Households									706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

On an average, 3.74 bundles of approximately 10 Kg of fuel wood are consumed in a week by MHHs and 3.60 bundles per week by FHHs. Both ST MHHs and FHHs indicated the highest fuel wood consumption per week. The annual consumption of gas cylinder was 3.46 cylinders by MHHs and 3.22 by FHHs.

Volume of Various Energies Used for Cooking

Volume used	MHH				FHH				Total	
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	FHH
Fuelwood (Bundles per week)	3.62	4.28	3.25	3.86	3.83	4.45	3.15	3.31	3.74	3.60
Biogas (Hours per day)	0.00	3.67	3.67	2.58	1.00	2.25	2.00	1.50	3.13	1.80
Gas Cylinder (Cylinder per year)	3.24	3.13	3.54	3.44	3.33	2.50	3.19	3.29	3.46	3.22
Kerosene (Litre per week)	0.25	0.17	0.13	0.15	0.09	0.17	0.16	0.10	0.15	0.14

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.5.3 Sources of Water**(1) Drinking Water**

All the HHs interviewed indicated that they use water from open well for drinking. 30.31% of MHHs and 29.83% of FHHs had pipe connection. Small number of HHs also collected drinking water from traditional rain water harvesting, shallow well, tube well and spring.

Sources of Drinking Water

Unit: Number of Households

Water Sources	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Open Well	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%
Pipe Connection	23	39	81	61	10	17	32	29	214	30.31%	88	29.83%
Total No of Households									706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

On an average, it takes 3.41 minutes for MHHs and 3.55 minutes for FHHs to reach the open well. The estimated daily water consumption ranges between 99.41 L and 150.7 L. The time spent to reach the open well is less for OBC and General categories and the number of times they fetch water is less than those of SC and STs. The volume of water fetched at a time by SC and ST households are less than that of OBC and General HHs. This may be the reflection of the distance from the HHs to the water source.

Accessibility to the Water Sources and Usage

Accessibility and Usage	MHH				FHH				Total	
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	FHH
Time to reach open well (minutes)	4.59	4.14	2.82	2.83	4.44	4.37	3.20	2.67	3.41	3.55
Number of Times Fetch water in a day (times)	4.49	5.08	3.79	3.06	4.28	6.16	4.01	3.00	4.10	4.45
Volume fetched at a time (L)	22.15	20.97	39.76	38.91	27.06	15.02	31.23	41.39	31.86	30.85

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Fetching drinking water is primarily the work of adult women in the HHs. Other HH members do help but not very common. Most houses using open wells for drinking water faces drinking water shortage for 2.28 months for MHH and 2.39 MM in a year for FHHs across all social groups.

7.5.4 Sanitation and Health**(1) Bathing**

84.56% of the total MHHs and 82.71% of the total FHHs have bathing space at their home premises. Out of the HHs having bathing space at home, 95.48% of the MHH members and 94.26% of FHH members use the spaces at home. For those not using the bathing space at home, river is used for bathing. Most frequently identified reason for not using the bathing space by the respondents was the difficulties in getting water to the bathing space at home.

Availability of Bathing Spaces at Homestead

Unit: Number of Households

Bathing Space at Home	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Have bathing space at home	53	138	236	170	26	41	104	73	597	84.56%	244	82.71%
Do not have	12	68	21	8	3	37	5	6	112	15.86%	51	17.29%
Total No of Households									706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Usage of Bathing Spaces

Unit: Number of Households

Usage of Bathing Space	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Use	50	128	229	163	23	36	100	71	570	95.48%	230	94.26%
Do not use	3	10	7	7	3	5	4	2	30	5.03%	14	5.74%
Total No of Households									597		244	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

(2) Toilet

Toilet facilities are available at 87.82% of MHHs and 87.80% of FHHs. The number of households do not have toilet at home is higher among ST MHHs and FHHs. All the household members having toilet at home indicated that they use the toilet at home. River seems to be a common used as an alternative.

Availability of Toilet at Homestead

Unit: Number of Households

Toilet at Home	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Have	57	151	238	174	27	52	107	73	620	87.82%	259	87.80%
Do not have	8	55	19	4	2	26	2	6	88	12.46%	36	12.20%
Total No of Households									706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

(3) Common Diseases

Most commonly occurred illness was fever, experienced by 69.12% of MHHs and 64.75% of FHHs, followed by headache. The incidences of diarrhoea were low.

Most Frequently Experienced Illnesses in the Household

Unit: Number of Households

Toilet at Home	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Headache	24	100	87	67	10	31	50	22	278	39.38%	113	38.31%
Fever	48	150	157	112	21	56	71	43	488	69.12%	191	64.75%
Diarrhoea	5	11	2	3		8	3	3	21	2.97%	14	4.75%
Total No of Households									706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.6 Road and Access to Community Facilities**7.6.1 Availability of All Weather Road**

The road that can be used throughout the year under any weather condition was not always available to the areas where the respondents lived. 37.39% of the MHHs and 42.37% of FHHs indicated that they are lacking access to all weather road. Panchayat wise data indicated that the most number of households indicated that they are lacking all weather road was in Noolpuzha and Poothadi Panchayats.

Availability of All Weather Road

Unit: Number of Households

All weather road	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Have	36	120	169	117	20	34	74	42	442	62.61%	170	57.63%
Do not have	29	86	88	61	9	44	35	37	264	37.39%	125	42.37%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.6.2 Market

The average distance to the market was 3.10 km. The distance from the market was indicated to be the farthest in Noolpuzha panchayats (8.82 km) and Sulthan Bathery (6.68 km). ST households indicated slightly farther distance from the market in comparison to the households of other categories. However, such difference was not significant. Most commonly, the villagers travel on foot to the market or bus.

Means of Transportation to Market

Unit: Number of Households

Means of Transportation	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Foot	43	120	166	102	23	48	70	51	431	61.05%	192	65.08%
Bicycle	0	1	0	1	0	0	0	0	2	0.28%	0	0.00%
Motorcycle	1	1	6	4		1	3	1	12	1.70%	5	1.69%
Shared Taxi	4	11	14	9	2	9	9	7	38	5.38%	27	9.15%
Bus	17	73	71	62	4	20	27	20	223	31.59%	71	24.07%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.6.3 Access to Education Facilities

Average distance to the Kindergarten/ Nursery/ Anganwadi was 1.0km. The average distance to LP Schools was a little less than 2 km to LP Schools and 2.65 km to UP Schools. Secondary School is located in approximately 3 km away and 4 km to higher secondary school. College is located at the farthest and the distance is approximately 11 km. Although the dropouts of ST pupils and students are high at all levels, the distance to educational facilities does not appear to be the significant factor for dropouts. Furthermore, the GoK is providing transportation to schools to the ST children; the distance is becoming less hindering to the ST children to go to school.

Average Distance to Education Facilities

Unit: km

Average Distance	MHH				FHH				Total	
	SC	ST	OBC	Genera	SC	ST	OBC	Genera	MHH	FHH
Kindergarten/ Nursery/ Anganwadi	1.17	1.06	1.00	0.98	0.65	0.89	1.18	0.97	1.03	1.00
Lower Primary	2.07	2.14	1.74	1.74	1.70	2.22	1.84	1.99	1.89	1.97
Upper Primary	3.28	3.14	2.25	2.41	2.41	3.25	2.34	2.58	2.65	2.65
Secondary	3.87	3.70	2.89	3.19	2.73	3.84	2.77	2.98	3.29	3.11
Higher secondary	4.78	5.29	3.67	4.15	3.27	4.81	3.71	4.33	4.37	4.12
College	12.22	11.45	10.70	11.33	12.33	11.26	11.78	11.32	11.21	11.57

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Lower the education level, the children mostly travel on foot. As the education level progresses, the distance from the houses to the schools would be far and thus, the common means of transportation shifts to bus.

Means of Transportation to Various Educational Institutions

Mode of Transportation	Foot		Motorcycle		Auto		Bus		Others		Total
	Counts of Responses	%	Counts of Responses	%	Counts of Responses	%	Counts of Responses	%	Counts of Responses	%	
Kindergarten/ Nursery/ Anganwadi	989	98.80%	1	0.10%	5	0.50%	6	0.60%	0	0.00%	1,001
Lower Primary	809	80.82%	4	0.40%	22	2.20%	149	14.89%	17	1.70%	1,001
Upper Primary	662	66.13%	4	0.40%	18	1.80%	293	29.27%	24	2.40%	1,001
Secondary	503	50.25%	8	0.80%	16	1.60%	445	44.46%	29	2.90%	1,001
Higher secondary	356	35.56%	14	1.40%	13	1.30%	594	59.34%	24	2.40%	1,001
College	28	2.80%	19	1.90%	5	0.50%	934	93.31%	15	1.50%	1,001

Source: Socio Economic Survey, JICA Survey Team (2014)

7.6.4 Health Facilities

The nearest health related facility was *Anganwadi* Centre, which is located on an average distance of 1.03 km from the houses and can be reached on foot. Primary health centre (PHC) and sub-centre are located approximately three km of distance from the houses, which can be reached either on foot or by bus. The distance to tribal hospital was 12.16 km on an average. Those facilities located more than three km of distance, some households use bus. When the distance is more than 6 km, most of the users use bus.

Access to Health Facilities

Health Facilities	Average Distance in Km	Most Common mode of transportation
Anganwadi Centre	1.03	On Foot
Primary Health Centre	3.12	On Foot/ Bus
Sub-Centre	3.01	On Foot/ Bus
Government Hospital	7.77	Bus/ On Foot
Private Clinic	6.66	Bus/ On Foot
Ayurvedic Clinic/ Hospital	6.14	Bus/ On Foot
Tribal Hospital	12.16	Bus/ On Foot
Midwife	3.56	On Foot/ Bus
Traditional Medical Practitioner	5.09	Bus/ On Foot

Source: Socio Economic Survey, JICA Survey Team (2014)

7.7 Banking and Savings**7.7.1 Access to Banking Facilities**

Out of the total sample households, 82.21% of the male heads of HHs and 88.14% of female heads of HHs had a bank account. Main reason for not having bank account was that they do not need one.

Number of Household Heads having Bank Account

Unit: Number of Household Heads

Status	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Have	61	161	253	176	26	58	101	75	651	92.21%	260	88.14%
Do not have	4	45	4	2	3	20	8	4	55	7.79%	35	11.86%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Out of the household heads having bank accounts, 6 household heads and 9 spouses of MHHs, and 2 household heads of FHHs indicated that they have personal savings in the bank. The number of household heads save on a regular basis was only 14 for MHHs and 3 for FHHs.

7.7.2 Loans**(1) Liability**

64.16% of the MHHs and 65.08% of the FHHs indicated that they have loan to repay.

Number of Households having Loan Liability at the time of the Survey

Unit: Number of Households

Status	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Have	45	79	196	133	22	29	76	65	453	64.16%	192	65.08%
Do not Have	20	127	61	45	7	49	33	14	253	35.84%	103	34.92%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

The average loan liability among the MHHs was Rs. 107,976 and Rs. 85,644 for the FHHs. The MHHs and FHHs of the General category have taken the highest loan amount followed by OBC. The maximum size of the loan recorded was Rs. 2,000,000 marked by a male head of household of General category. The amount of loan took by the ST MHHs and FHHs was the smallest. Between the MHHs and FHHs, the amount of loan is less among FHHs across all social groups.

Amount of Liability

Unit: Rs.

Amount	MHH				FHH				Total	
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	FHH
Average	80,244	43,018	111,314	151,024	72,274	24,462	79,776	124,326	107,976	85,644
Max	750,000	420,000	1,000,000	2,000,000	500,000	100,000	250,000	821,000		
Min	500	500	1,000	5,000	25	100	500	1,000		

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

The table below summarises the amount of loan taken by the households by the frequency counts. In both MHHs and FHHs, OBC and General households have the higher counts of the loan amount above Rs. 50,000, whereas the counts of SC and ST households in both MHHs and FHHs are mostly distributed at the lower ranges.

Frequency Counts of the Amount of Loan Taken

Unit: Counts of Responses

Amount of Loan Taken	MHH				FHH			
	SC	ST	OBC	General	SC	ST	OBC	General
Below 5,000	3	24	7	1	5	15	2	4
5,001- 10,000	8	7	9	11	2	1	5	2
10,000-20,000	5	15	21	13	5	2	10	6
20,001-30,000	7	9	20	10	2	3	7	10
30,001-40,000	1	2	11	4	0	2	5	3
40,001-50,000	4	9	24	9	1	2	8	6
Above 50,001	17	13	104	85	7	4	39	34
Total	45	79	196	133	22	29	76	65

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

(2) Sources of Loan

Main providers of loan were bank and SHG for both MHHs and FHHs across all social groups.

Sources of Loan

Unit: Counts of Responses

	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Bank	31	33	138	95	10	8	49	47	297	42.80%	114	40.14%
Co-operative Society	4	5	18	17	2		7	12	44	6.34%	21	7.39%
SHG	22	28	82	64	12	12	34	27	196	28.24%	85	29.93%
Money Lender	8	6	13	10	4	2	5	6	37	5.33%	17	5.99%
Family Member	2	4	21	13		2	4	4	40	5.76%	10	3.52%
Friend	7	7	27	19	2	10	7	9	60	8.65%	28	9.86%
Input Supplier	1	10	3	6	1	3	1	4	20	2.88%	9	3.17%
Total	75	93	302	224	31	37	107	109	694	100.00%	284	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

(3) Purposes of taking loan

34.38% of the responses from MHHs and 32.37% of the responses from FHHs indicated that they borrowed money to meet medical expenses. To cover crop production cost, education of children and daily expenses are among other reasons for taking loans.

Counts of Responses for Reasons for Taking Loan

Unit: Counts of Responses

	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Meeting Crop Production cost	6	10	29	17	2	1	12	8	62	16.15%	23	16.55%
Purchase livestock	2	5	19	9	2	3	4	5	35	9.11%	14	10.07%
Fund own business	2	1	11	9	1		4	1	23	5.99%	6	4.32%
Product processing activity	3	5	5	3	2	1		1	16	4.17%	4	2.88%
Education of children	3	8	23	27	2	3	7	9	61	15.89%	21	15.11%
Medical expenses	7	19	62	44	6	5	14	20	132	34.38%	45	32.37%
Meeting family requirement/ Consumption purposes (purchasing daily necessities)	8	18	14	15	5	9	5	7	55	14.32%	26	18.71%
Total	31	66	163	124	20	22	46	51	384	100.00%	139	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.8 Participation to Community Level Institutions**7.8.1 Grama Sabha and Oorkoottam**

As Grama Sabha is the community level institution consisting of all the voters in a ward, the respondents identified most frequently as a community level institution that both the MHHs and FHHs participate. Likewise Oorukoottam, the community level institution where the STs discuss to resolve the developmental issues in the locality, was responded by 173 households out of 206 ST MHHs, and 62 households out of 78 ST FHHs indicated that they are involved in Oorukoottam. However, not all the households responded that they are involved in these institutions. The number of households that did not indicate their participation in Grama Sabha was recorded the most among ST MHHs.

The male-female ratio of participation to Grama Sabha was 1:0.91. Social group wise, the male participation was the least among SC MHHs, which was 1: 0.60. On the other hand, the same figure for OBC MHHs was 1:1.10. The male female participant ratio for Oorukoottam was 1:0.89.

Involvement in Various Community Level Institutions

Unit: Counts of Responses

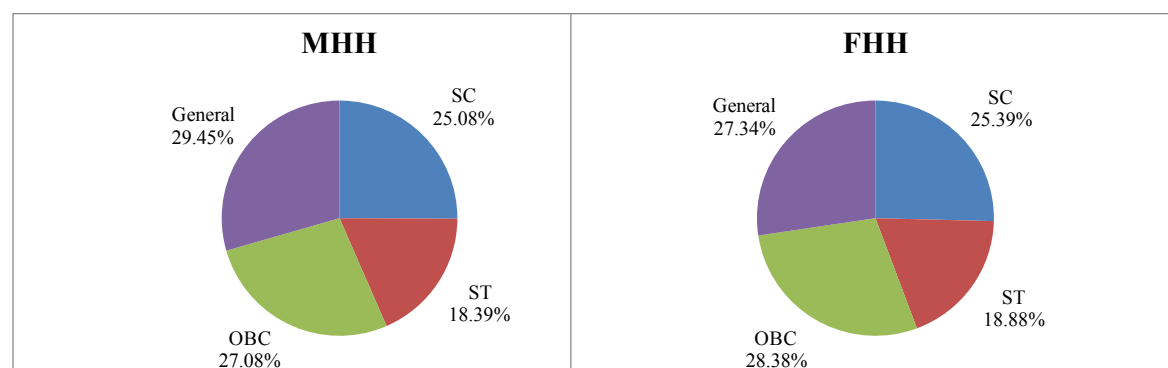
Types of Community Institutions	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Farmers Cooperative	5	10	14	19	2	5	6	9	48	6.80%	22	7.46%
Farmers Group	3	8	15	19	2	4	6	9	45	6.37%	21	7.12%
SHG (Kudumbashree)	37	86	158	119	15	30	63	44	400	56.66%	152	51.53%
SHG (Promoted by organisations other than Kudumbashree)	7	20	51	29	9	4	27	17	107	15.16%	57	19.32%
Oorukoottam	3	173	5	3	62	4	5	0	184	26.06%	71	24.07%
Grama Sabha	57	164	237	165	27	62	98	72	623	88.24%	259	87.80%
Joint Liability Group	2	9	11	8	1	2	6	8	30	4.25%	17	5.76%
VSS/ EDC	0	2	0	0	0	1	0	0	2	0.28%	1	0.34%
Total Number of Sample HHs	65	206	257	178	29	78	109	79	706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.8.2 Kudumbasree

SHGs (or NHGs) formed by Kudumbasree were also often indicated as a community level institution that they take part in. 56.66% of the MHHs and 51.53% of FHHs have its membership. The proportion of the member households of Kudumbasree SHGs was most among the General category of MHHs and FHHs followed by OBC and SC. ST households indicated less participation to the Kudumbasree SHGs.



* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Proportion of Kudumbasree Member Households (Social Group wise)

Joining these community level institutions gives advantages for the members to gain new skills and knowledge. Among the SHG members, saving money and better access to loan were other reasons for joining the groups. Advantages of joining Farmers Cooperatives and Groups are mainly to save money. Marketing was not seen by many members as an advantage of joining these groups.

Advantages of Participating in Various Community Level Institutions

Advantages for Participation	Farmers Cooperative	Farmers Group	Kudumbasree SHG	SHG	Oorukoottam	Grama Sabha	Joint Liability Group	VSS/ EDC
Lear new skills and gain knowledge	5	15	162	53	182	731	14	2
Save money	26	23	241	50	13	16	3	
Meet friends and neighbours	2	1	4	5	18	5		
Better marketing	1	6			2			
Better access to loan	5	4	126	53	7	26	10	
Total Counts of Responses	39	49	533	161	222	778	27	2

Source: Socio Economic Survey, JICA Survey Team (2014)

7.9 Household Expenses

On an average, Rs. 1,427.32 by MHHs and Rs. 1,104.30 by FMMs were required in a week for managing a household. In both categories of households, General category households require the larger amount of cash. ST MHHs and FHHs spend the least.

Average Weekly Cash Requirement

Unit: Rs.

Amount	MHH				FHH				Total	
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	FHH
Average	1,441.53	1,080.21	1,522.98	1,685.72	1,306.13	827.88	1,129.00	1,269.04	1,427.32	1,104.30
Max	4,820.00	3,800.00	33,410.00	7,600.00	6,939.00	3,680.00	6,820.00	4,516.00	33,410.00	6,939.00
Min	350.00	55.00	237.00	219.00	435.00	214.00	120.00	175.00	55.00	120.00

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

The scale of the average total weekly expenditure is less by 29.25% among the FHHs in comparison to MHHs. Across all categories, expenditures for food items accounted for 42.01% or Rs. 599.64 for MHHs and 45.35% or Rs. 500.81 for FHHs. Medical expenses were less among the ST MHHs and FMMs. Expenditure on liquor/ paan/ tobacco was high among ST MHHs and SC and ST FHHs.

Item wise Average Weekly Cash Requirement

Unit: Rs.

Amount	MHH				FHH				Total	
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	FHH
Food	681.77	511.21	587.46	689.57	544.34	426.87	507.10	549.15	599.64	500.81
Medical Expenses	177.25	95.96	191.34	196.81	86.86	46.36	146.63	197.27	163.59	127.80
House Repair	97.09	25.35	83.82	76.07	211.10	1.99	122.26	74.61	66.03	86.43
Utility Bills	91.96	58.65	235.80	151.00	114.72	42.74	88.65	107.41	149.49	84.10
Schooling	100.17	52.37	95.50	215.22	45.62	32.26	61.28	77.43	113.53	56.39
Liquor/ Paan/ Tobacco	88.34	159.99	54.74	73.92	112.62	147.49	35.91	45.76	93.38	75.59
Transportation	107.08	84.87	120.04	141.73	91.38	66.01	93.28	113.76	114.05	91.37
Clothing	69.60	68.33	112.93	95.51	51.51	50.21	56.65	81.36	91.53	61.06
Recreation	13.08	14.65	20.82	20.19	14.00	6.54	8.62	11.80	18.15	9.45
Other expenses	15.20	8.82	20.53	25.69	33.97	7.41	8.61	10.51	17.92	11.29
Total	1,441.53	1,080.21	1,522.98	1,685.72	1,306.13	827.88	1,129.00	1,269.04	1,427.32	1,104.30

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

When a small amount of cash was required immediately, household members borrowed money from SHGs and neighbours. 30.04% of the MHHs and 34.11% of the FHHs borrowed money from SHGs and 17.60% of MHHs and 16.28% of FHHs did the same from their neighbours.

Sources of Cash to Meet the Daily Expenses

Unit: Counts of Responses

Lenders	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
SHG	23	35	97	55	9	8	45	26	210	30.04%	88	34.11%
Bank	11	10	48	41	4	5	16	12	110	15.74%	37	14.34%
Relative	16	37	53	17	4	14	15	9	123	17.60%	42	16.28%
Neighbor	17	75	68	49	9	22	20	20	209	29.90%	71	27.52%
Money Lender	7	3	9	14	1	5	4	2	33	4.72%	12	4.65%
Credit from Shops/ Suppliers	2	8	4	0	1	2	3	2	14	2.00%	8	3.10%
Total	76	168	279	176	28	56	103	71	699	100.00%	258	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.10 Food Availability

77.76% of the MHHs and 76.95% of the FHHs depended on rations. 49.15% of MHHs and 46.78% of FHHs also purchase food from shops. Only a small number of households cultivate their own food.

Means of getting Food

Unit: Counts of Responses

Responses	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Cultivated on own land	9	32	30	37	3	10	12	20	108	15.30%	45	15.25%
Ration	55	176	184	134	25	63	83	56	549	77.76%	227	76.95%
Purchased food	32	84	118	113	11	37	44	46	347	49.15%	138	46.78%
Total Sample Households	65	206	257	178	29	78	109	79	706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Out of 706 MHHs, 53 households and 33 households out of 295 FHHs experienced food shortage in the preceding 12 months. 34 ST MHHs and 20 ST FHHs marked the highest number of households experiencing the food shortage. The number of FHHs of General category experienced no food shortage.

Experience in Food Shortage in 12months prior to the Survey

Unit: Number of Households

Response	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Yes	5	34	10	4	4	20	9	0	53	7.51%	33	11.19%
No	60	172	247	174	25	58	100	79	653	92.49%	262	88.81%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

The duration of food shortage was 2.02 months for MHHs and 2.06 months for FHHs on an average. As for MHHs, the months of food shortage was less in OBC and General households while SC households experienced the longest period of 2.60 months. Among the FHHs, SC FHHs experienced the least food shortage period of 1.75 months. OBC and ST FHHs experienced about the same duration of food shortage period of 2.11 months and 2.10 months, respectively. Most common strategy to cope with the food shortage was to eat less food. Food items like cereals and pulses were the main items. Though not common but occasionally, households may borrow food from neighbours/ relatives.

Average Duration of Food Shortage

Unit: Months

Social Groups	MHH	FHH
SC	2.60	1.75
ST	2.06	2.10
OBC	1.70	2.11
General	1.75	0.00
Total	2.02	2.06

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.11 Non Timber Forest Products (NTFPs)

Out of the total sample households, 3 SC MHHs, 17 ST MHHs, and 20 ST FHHs were engaged in collection of NTFPs such as dammar, honey and medicinal herbs.

One SC MHH, six ST MHHs and nine ST FHHs collect dammar. The rest of the households collect honey and medicinal herbs.

In the case of dammar, both men and women collect NTFP. Honey and medicinal herbs are mostly collected by male household members. In the case of FHHs, male children will be engaged in collection of honey. The sales price of medicinal herbs was the highest followed by dammar and honey. Regarding to volume, honey is harvested the most.

Volumes Collected, Sold and Sales Price of NTFPs

NTFPs	Volume Collected (kg)	Volume Sold (kg)	Sales Price per kg (Rs.)
Dammar	24.58	23.31	111.46
Honey	32.60	32.80	106.60
Medicinal Herbs	3.67	4.83	127.83

Note: Volume of honey sold was higher than that of collected. This could have been an error in the data entry. It was unable to be rectified during the Preparatory Survey.

Source: Socio Economic Survey, JICA Survey Team (2014)

The processing and sales of all the NTFPs are largely done by men in the MHHs and FHHs. Most of the products are sold to the ST Cooperative/ Service Society. The SC MHHs sell their produces to the individual traders.

Buyers of NTFPs

Unit: Counts of Responses

Buyer	MHH			FHH		
	Dammar	Honey	Medicinal Herbs	Dammar	Honey	Medicinal Herbs
Cooperative/ service society	11	2	1	5	3	1
Individual trader	3	2	2	1		
Others				1		

Source: Socio Economic Survey, JICA Survey Team (2014)

7.12 Human – Wild Animal Conflict

Human- wild animal conflict has been experienced by nearly half the sampled households. 42.92% or 303 MHHs and 42.03% or 124 FHHs have responded that they have experienced damages caused by wild animal.

Number of Households Experienced Human-Wild Animal Conflict

Responses	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Yes	27	85	106	85	10	33	42	39	303	42.92%	124	42.03%
No	38	121	151	93	19	45	67	40	403	57.08%	171	57.97%
Total	65	206	257	178	29	78	109	79	706	100.00%	295	100.00%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Among the MHHs, monkey is mostly causing damages. Wild boar is the most commonly identified harmful wild animal among FHHs. Elephants are also causing damages. There were some occasions of personal injuries or death. But the nature of damage caused by the wild animals is largely crop damage.

The number of the households received the compensation from the Forest Department for the damages was not high. 30 households out of 303 MHHs and 12 households out of 124 FHHs have received compensation. The respondent mostly indicated that Forest Department has dug trenches as precautionary measures. Other precautionary measures done by Forest Department included electric and solar fencing.

Wild Animals Causing Damages

Unit: Counts of Responses

Animals	MHH	FHH
Elephant	130	188
Wild Bore	146	212
Tiger	35	12
Leopart	5	6
Monkey	215	81

Source: Socio Economic Survey, JICA Survey Team (2014)

Number of Households Received Compensation for the Damages Caused by Wild Animals

Responses	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Received	4	7	13	6	2	2	5	3	30	4.25%	12	4.07%
Not Received	23	78	93	79	8	31	37	36	273	38.67%	112	37.97%
Total	27	85	106	85	10	33	42	39	303	42.92%	124	42.03%

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

7.13 Household Assets

Mostly the basic amenities are available in majority of the households but refrigerators, washing machines and solar lanterns are not yet common.

Household Assets – Household Items

Unit: Counts of Responses

Type of Assets	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Cooking utensils	58	189	247	174	26	74	106	76	668	94.62%	282	95.59%
Pressure cooker	21	17	176	125	11	4	64	45	339	48.02%	124	42.03%
Plates	65	205	253	175	28	76	108	77	698	98.87%	289	97.97%
Cooker/ gas Stove	29	23	195	137	14	3	77	57	384	54.39%	151	51.19%
Refrigerator	2	3	25	28	1		11	14	58	8.22%	26	8.81%
Washing Basin	15	21	111	87	6	7	35	32	234	33.14%	80	27.12%
Washing Machine	2	2	16	15	1		3	2	35	4.96%	6	2.03%
Bed	41	66	226	161	15	19	89	68	494	69.97%	191	64.75%
Solar Lantern	3	4	12	9		1	8	2	28	3.97%	11	3.73%
Table	37	58	209	150	14	18	81	63	454	64.31%	176	59.66%
Chairs	56	122	236	168	22	34	96	73	582	82.44%	225	76.27%
Total number of Responses	329	710	1706	1229	138	236	678	509	3,974	562.89%	1,561	529.15%
Total No of HH	65	206	257	178	29	78	109	79	706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Although radio, computer, CD and DVD players are not commonly available, 91.50% of the MHHs and 82.71% of FHHs have access to mobile phone. Nearly half of the households interviewed in the survey have TVs.

Household Assets – Communication and Entertainment

Unit: Counts of Responses

Type of Assets	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Mobile Phone	60	158	251	177	25	47	102	70	646	91.50%	244	82.71%
Radio	11	26	23	22	3	9	12	7	82	11.61%	31	10.51%
CD Player	9	14	35	33	5	4	8	10	91	12.89%	27	9.15%
DVD Player	5	15	37	29	3	6	15	14	86	12.18%	38	12.88%
Dish	23	60	100	78	11	13	42	40	261	36.97%	106	35.93%
Computer	2	1	8	9		2	4	2	20	2.83%	8	2.71%
TV	42	71	176	124	17	15	70	60	413	58.50%	162	54.92%
Total number of responses	152	345	630	472	64	96	253	203	1,599	226.49%	616	208.81%
Total No of HH	65	206	257	178	29	78	109	79	706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

Bicycle and Motorcycle are not yet common among the BPL households interviewed in the survey. 28.90% of the MHHs and 28.14% of FHHs are engaged in poultry. 22.80% of MHHs and 29.15% of FHHs undertake goat rearing.

Household Assets - Productive Assets

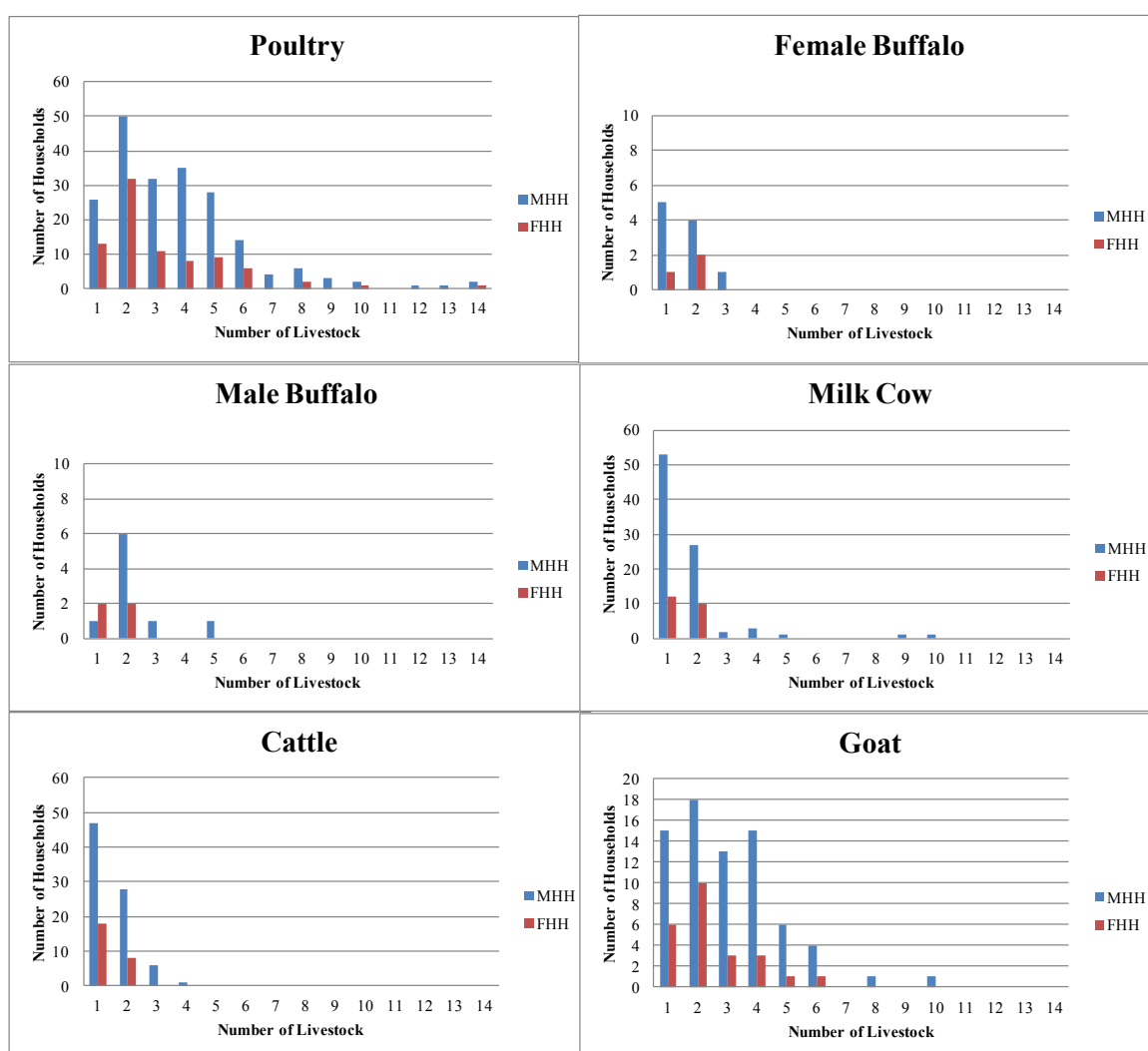
Unit: Counts of Responses

Type of Assets	MHH				FHH				Total			
	SC	ST	OBC	General	SC	ST	OBC	General	MHH	%	FHH	%
Bicycle	2	8	16	11	1		5	4	37	5.24%	10	3.39%
Motorcycle	2	7	33	32	2	1	7	10	74	10.48%	20	6.78%
Poultry	16	51	77	60	4	17	32	30	204	28.90%	83	28.14%
Male Buffalo		6	1	2		3	1		9	1.27%	4	1.36%
Female Buffalo		3	1	6		1		2	10	1.42%	3	1.02%
Milk Cow	2	33	25	28	1	8	1	12	88	12.46%	22	7.46%
Cattle	4	24	27	27	1	9	4	12	82	11.61%	26	8.81%
Goat	8	61	50	42	6	23	25	32	161	22.80%	86	29.15%
Total number of responses	34	193	230	208	15	62	75	102	665	94.19%	254	86.10%
Total No of HH	65	206	257	178	29	78	109	79	706		295	

* Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), General category includes all other social groups.

Source: Socio Economic Survey, JICA Survey Team (2014)

As for poultry, most MHHs and FHHs own two birds. 90.69% of the households own up to six birds. Male and female buffaloes, milk cows, cattle are owned either one or two. A majority of MHHs and FHHs own up to six goats. Two goats are the most commonly owned by both MHHs and FHHs.

Household Distribution by the Number of Livestock Owned

Source: Socio Economic Survey, JICA Survey Team (2014)

The average number of livestock per household is given in the table below.

Average Number of Livestock per Household

Livestock	MHH	FHH
Poultry	3.74	3.17
Male Buffalo	2.33	1.50
Female Buffalo	1.60	1.67
Milk Cow	1.69	1.45
Cattle	1.52	1.31
Goat	3.04	2.42

Source: Socio Economic Survey, JICA Survey Team (2014)

7.14 Female Heads of Households and Unwed Mothers – Qualitative Account

Since the statistical data was limited to understand the livelihoods of female heads of HHs and Unwedded Mothers, the Survey Team conducted individual interviews by household visits. Anganwadi workers helped to identify the informants in the areas. Especially unwed mothers are often invisible and their voices are not yet heard. The brief account of the challenges faced by these

women is given below. Income wise, FHHs are better off than the unwed mothers. The latter has weak earning capacity and lacking access to supports from various sources. As for FHHs, they are indeed struggling yet they appear to have more options for public supports. The summary and results of the interviews is found in **Attachment 7.14.1**.

7.14.1 Female Heads of Households

Ten female heads of HHs between the age of 35 and 58 from various social groups were interviewed. Some of them are deserted by husband. Others are widow. One was unmarried. Their livelihood derives from the daily wage labour while two women were working as a nurse in Kozhikode and another one was a permanent worker in a coffee estate. The income ranged from Rs. 1,500 to 9,000 in a month. The nurses have earned the high salaries, whereas those depend on daily wages earned between Rs. 1,500 and 2,000 in a month. Insecure income, fund for educating children, and debts are some of the challenges faced by female heads of HHs. If one is a widow, she received widow pension.

In the case of a widow, she could not apply for a housing scheme as she has a land of common ownership. As seen in the above sections, joint ownership or having land under her spouse's name seems to invite a disadvantage for the woman. This issue needs to be further explored though this is beyond the scope of this Survey.

7.14.2 Unwed Mothers

The Survey Team interviewed six unwed mothers between the age of 26 and 42 from various social groups. They depend on wage labour. Their incomes range between Rs. 750 and 1,000 in a month. The employment opportunities are limited for these women and they are bound to borrow money from their neighbours. Debts from the neighbours were identified as one of their problems.

One of the issues raised by the unwed mothers was "lack of support from the household members". Some of the unwed mothers especially those who are young may be staying at home with their households. They are less likely to have BPL ration card. Their relationship with their household members would be complicated and would not be supportive and thus, they may not be able to benefit from the BPL ration card and suffer.

Chapter 8 Agriculture and Livestock

8.1 Agriculture

8.1.1 Agricultural Land Use

The changes on agricultural land utilisation between 2010-11 and 2012-13 in Wayanad and Kerala are shown in the following table.

Changes in Agricultural Land Utilisation

	Wayanad			Kerala		
	Area in 2010-11 (ha)	Area in 2012-13 (ha)	Area changed(ha)	Area in 2010-11 (ha)	Area in 2012-13 (ha)	Area changed(ha)
Total Geographical Area	212,966	212,966	–	3,886,287	3,886,287	–
Cultivable waste	1,195 (0.6) * ¹	997 (0.5) * ¹	-198 (16.6) * ²	91,665 (2.4) * ¹	96,596 (2.5) * ¹	4,931 (5.4) * ²
Fallow other than current fallow	833 (0.4) * ¹	863 (0.4) * ¹	30 (3.6) * ²	51,943 (1.3) * ¹	55,835 (1.4) * ¹	3,892 (7.5) * ²
Current fallow	1,750 (0.8) * ¹	2,363 (1.1) * ¹	613 (35.0) * ²	76,028 (2.0) * ¹	76,744 (2.0) * ¹	716 (0.9) * ²
Net area sown	114,966 (54.0) * ¹	114,899 (5.4) * ¹	-67 (-0.1) * ²	2,071,507 (53.3) * ¹	2,048,109 (52.7) * ¹	-23,398 (-1.1) * ²
Area sown more than once	60,334	55,714	-4,620 (-7.7) * ²	575,954	543,625	-32,329 (-5.6) * ²
Total Cropped Area	175,300	170,613	-4,687 (-2.7) * ²	2,647,461	2,591,734	-55,727 (-2.1) * ²

Note: *1 is the percentage to the total geographical area and *2 is the percentage of area changed from 2010-11 to 2012-13 to the area in 2010-11 in each land category.

Source: Agricultural Statistics 2012-13, Panchayat level statistics 2011

Share of net area sown to total geographical area in Wayanad (54% both in 2010-11 and 2012-13) is almost same share with that in Kerala (53.3% in 2010-11 and 52.7% in 2012-13). Share of cultivable waste, fallow other than current fallow, and current fallow in Wayanad are less than those of in Kerala in both years. While net area sown in Kerala decreased by 5.6% in two years, the area was unchanged in Wayanad. The main reason of decrease in total cropped area of about 4,600 ha seems to be attributed to the decrease in area sown more than once. The agricultural land uses and vegetations are shown in **Map 11**.

8.1.2 Land Tenure and Holdings

(1) Kerala Land Reform Act

After the formation of the State of Kerala the first major achievement on land reform was the Kerala Agrarian Relations Bill, 1957, which was passed on October 15, 1960. This Act was repealed in 1961 and was substituted by the Kerala Land Reforms Act, 1963. This act had provisions relating to: i) the fixation of ceiling on land holdings; ii) the vesting of lands in excess of the ceiling in government; iii) assignment of surplus lands; iv) abolition of tenancy system; v) assignment of proprietary right on land to the cultivating tenants; vi) the conferment of the right on Kudikidappukars¹ to purchase land; and vii) the constitution of a Kudikidappukars Benefit Fund²

¹ Kudikidappukars: hutment dwellers

² The official website of Government of Kerala http://kerala.gov.in/index.php?option=com_content&view=article&id=3668&Itemid=2959 (Accessed on June 2014)

(2) Distribution of Land Holdings in Wayanad

Distribution of land holdings in Wayanad according to social groups and holding sizes is shown in the table below. The table shows that 89% of holdings (154,883 out of 174,416) belong to marginal class. The percentage of the marginal class holdings against the number of all sizes is as high as 96 % for SC and 95% for ST compared to 87% for others. Average holding size of others (0.58 ha) is about three (3) times larger than those of SC and ST (0.21 ha and 0.26 ha, respectively). About 17% of the areas held by large size holders accounts for only 0.1% of the total number of land holdings. The area held by SC and ST is less than 10%.

Distribution of Land Holdings in Wayanad

Size class (ha)		No. of Holding				Area (ha)				Average Area (ha)			
		All	SC	ST	Others	All	SC	ST	Others	All	SC	ST	Others
Marginal	Below 1.00	154,863 (88.79)	4,362 (2.50)	26,073 (14.95)	124,428 (71.34)	33,950 (37.53)	603 (0.67)	4,291 (4.74)	29,056 (32.12)	0.22	0.14	0.16	0.23
Small	1.00-1.99	13,341 (7.65)	101 (0.06)	1,033 (0.59)	12,207 (7.00)	21,091 (23.32)	134 (0.15)	1,399 (1.55)	19,559 (21.62)	1.58	1.33	1.35	1.60
Semi-medium	2.00-3.99	4,832 (2.77)	61 (0.03)	397 (0.23)	4,374 (2.51)	13,678 (15.12)	151 (0.17)	1,041 (1.15)	12,485 (13.80)	2.83	2.48	2.62	2.85
Medium	4.00-9.99	1,177 (0.67)	10 (0.01)	50 (0.03)	1,117 (0.64)	6,465 (7.15)	69 (0.08)	261 (0.29)	6,135 (6.78)	5.49	6.93	5.22	5.49
Large	10.00&above	203 (0.12)	0 (0.00)	5 (0.00)	198 (0.11)	15,272 (16.88)	0 (0.00)	154 (0.17)	15,117 (16.71)	75.23	0.00	30.90	76.35
All sizes		174,416 (100.00)	4,534 (2.60)	27,558 (15.80)	142,324 (81.60)	90,456 (100.00)	958 (1.06)	7,146 (7.90)	82,352 (91.04)	0.52	0.21	0.26	0.58

* Figures in brackets are the percentage to the all sizes of all number or all area

** The total area of 90,456ha is smaller than 114,966 ha of "net area sown" in 2010-11 in Section 8.1.1. The possible reason of this difference may be different sampling size and method. Both results are estimated based on data hearing from farmer.

Source: Provisional report on 9th agricultural census (Phase I) 2010-11

The number of holdings is not the same as the number of households in Wayanad. It may be due to the following reasons: i) there are cases several land holdings are registered in a family by, for example, mother and son or husband and wife separately; ii) in Kerala, the land tends to be allocated equally to spouse and children as inheritance when the land owner, e.g. the head of the family, passed away; iii) basically agricultural subsidy or support schemes generally focus on small or marginal holdings but large land holdings who own more than two ha; iv) those who possess more than two ha can jointly register as a land holder for one ha with another land holder so that they could receive the support. This could also promote the segmentation of land.

8.1.3 Cropped Area and Crop Production**(1) Distribution of Cropped Area**

The table below shows the distribution of cropped area across different crops in 2012-2013 of Wayanad as compared to those of Kerala.

Distribution of Cropped Area in 2012-2013

	Area (ha)		% of the crop area to total cropped area in Wayanad	% of the crop area in Wayanad to that of in Kerala
	Wayanad	Kerala		
Total Cropped Area	170,613	2,591,734	100.0	6.6
Paddy	10,230	197,277	6.0	5.2
Grains	6	515	0.0	1.2
Pulses	759	2,948	0.4	25.7
Sugar Crops	67	4,661	0.0	1.4
Spices and Condiments	26,946	269,546	15.8	10.0
Fresh Fruits	26,218	309,709	15.4	8.5
Dry Fruit	748	52,086	0.4	1.4

	Area (ha)		% of the crop area to total cropped area in Wayanad	% of the crop area in Wayanad to that of in Kerala
	Wayanad	Kerala		
Tapioca	2,134	69,586	1.3	3.1
Tubers	1,745	19,789	1.0	8.8
Vegetables	1,689	40,837	1.0	4.1
Oil Seeds	10,039	800,220	5.9	1.3
Fibre Drugs and Narcotics	29	917	0.0	3.2
Plantation Crops	83,431	668,142	48.9	12.5
Other non Food Crops	6,572	155,501	3.9	4.2

Source: Agricultural Statistics 2012-2013

Share of plantation crops area is largest in Wayanad (48.9%), followed by spices and condiments (15.8%) and fresh fruits (15.4%). The pulse cultivation area in Wayanad accounts for 25% of that in Kerala. The area of plantation crop and spice and condiment in Wayanad accounts for more than 10% of that in Kerala.

(2) Area, Production and Yield

The following table shows cropped area, production and yield of major crops in Wayanad and Kerala in 2012-13.

Area, Production and Yield of Major Crops in Wayanad and Kerala in 2012-13

Crop	Wayanad			Kerala		
	Area (thousand ha)	Production (thousand ton)	Yield (kg/ha)	Area (thousand ha)	Production (thousand ton)	Yield (kg/ha)
Coffee	67.4 (78.9)	57.4 (84.1)	851	85.4	68.2	799
Tea	5.3 (17.6)	14.0 (22.2)	2,632	30.2	63.0	2,085
Rubber	10.5 (1.9)	9.7 (1.2)	923	539.6	800.1	1,442
Cardamom	4.1 (9.9)	0.6 (6.0)	148	41.6	10.2	246
Pepper	8.9 (10.6)	3.7 (8.0)	414	84.7	46.3	547
Areca nut	11.6 (11.4)	5.8 (4.9)	502	101.8	118.2	1,162
Coconut*	10.0 (1.3)	46.0 (0.8)	4,602	798.2	5799.0	7,265
Cashew	0.7 (1.4)	0.4 (0.9)	476	52.1	37.9	728
Paddy	10.2 (5.2)	28.1 (5.5)	2,742	197.3	508.3	2,577
Banana	12.1 (19.8)	95.0 (18.4)	7,857	61.0	515.6	8,451
Ginger	1.9 (42.0)	11.8 (53.7)	6,258	4.5	22.1	4,898
Tapioca	2.1 (3.1)	96.0 (3.9)	44,963	69.6	2458.5	35,331

* Production in million nut, Yield in million nut/ha

The figure in clause is percentage to Kerala.

Source: Government of Kerala Agricultural Statistics 2012-13

- Coffee

Coffee based farming system is notable feature of Wayanad. Both the area and production of coffee in Wayanad are highest, which account for 79% and 84% of Kerala, respectively. The yield of coffee is 851kg/ha, which is the highest in the state.

- Tea

Area and production of tea in Wayanad is the second largest in the state, which account for 18% and 22% of Kerala. Tea is cultivated in six districts in the State but Idduki and Wayanad are the two major districts which account for 90% of total area and 94% of total production.

- Rubber

Although rubber production in Kerala accounts for 90% of that in all-India and rubber is cultivated in all the districts in Kerala, area and production of rubber in Wayanad is the second smallest in Kerala after Alappuzha.

- Cardamom

Cardamom is cultivated in nine districts in Kerala. Both the area and the production of cardamom in Wayanad are the second highest in the state, which account for 10% and 6% of those in Kerala, respectively. The cultivated area of Cardamom in Wayanad slightly increased and reached 4,106 ha since 2005-06.

- Pepper

Wayanad stands at the second position in pepper cultivation area and its production, which account for 11% and 8% of that in Kerala. The cultivation area and the production of pepper in Wayanad have decreased to 8,900 ha and 3,700 ton respectively from 41,464 ha and 11,483 ton in 2005-06.

- Areca nut

The cultivation area of areca nut stands at the third position with 11% of that in Kerala, while its production is at the sixth position with the share of 5% in Kerala. Productivity of areca nut in Wayanad is the second smallest in the state after Alappuzha.

- Coconut

Kerala has the largest coconut growing area in the country while coconut area in Wayanad is smallest, which account only 1% of the coconut area in the state. Productivity of coconut in Kerala is very low in comparison to all-India, and the productivity in Wayanad is lowest in the state which resulted in the low production of coconut with the share of only 0.8% in the state.

- Cashew

Cashew is cultivated in all the districts in Kerala. The area and production of cashew in Wayanad are the forth smallest in the state.

- Paddy

Wayanad once had nearly 40,000 ha of paddy cultivation. The name Wayanad itself came from “Wayal Nadu” which means “the land of paddy fields.” Paddy used to be a dominant crop in Wayanad but paddy cultivation has been rapidly diminishing because it was replaced with other cash crops such as banana and ginger. Although paddy cultivation area in Wayanad is the fifth largest in the state, paddy cultivation area has shrunk to 10,230 ha in 2012-03 with its production of 28,052 ton.

- Banana

Banana cultivation area and production in Wayanad stands at the second position with the share of 20% and 18% of those in Kerala.

- Ginger

Wayanad stands at first position of cultivation area and production of ginger in Kerala, which account for 42% and 54% of those in Kerala, respectively. The productivity of ginger in Wayanad is also the highest in the state, which is 3.4 times higher than that of Malappuram where the productivity is the lowest.

- Tapioca

Area of tapioca is the fifth smallest in Wayanad while the production is the seventh smallest in the state. Productivity of tapioca in the district is the third highest after Idduki and Thrishhur.

8.1.4 Agricultural Land Conservation

The damage to the agricultural land is caused mainly due to the water and the damage is easily caused on the slope. The soil surface of the slope should be covered with the natural vegetation. If not properly covered, it would be degraded through sheet erosion, rill erosion and gully erosion.

In Wayanad, it was observed that the present land conservation condition for the very small agricultural land of each of the BPL households is maintained rather well, even though there are several improvement points as mentioned above.

8.1.5 Farm Input Supply

Agriculture Department plays an important role for farm input supply. The department give agricultural chemicals such as Trichoderma, Pseudomonas, Neem cake, Dolomite, Bordeaux mixture and Lime powder as subsidy to registered farmers through Krishi Bhavans to prevent disease pandemic. The department also has a role of selling improved seeds.

In an effort to promote organic agriculture in the state, the Government of Kerala extended support to farmers by providing them with Rs.10,000 over a period of three years for organic certification of farms. Wayanad Organic Agriculture Consortium (WOAC) was formed in 2003 by organic farmers and members from the Agriculture Department. The total number of the farmers registered to the Consortium is 12,240 covering an area of 11,937.33 ha. The principal focus of the Consortium is to provide training on organic agriculture, assist in meeting certification requirements and support with organic marketing.

There are several NGOs in Wayanad working for the development of organic agriculture in the district. The most notable among them are Wayanad Social Service Society (WSSS) and Shreyas Social Service Society.

8.1.6 Agriculture Marketing

In Wayanad district, prevailing marketing practices take place between individual farmers and private dealers. As a result they are unable to realize remunerative prices for their produce. Regularized market support exists for vegetables through the Rural Agriculture Wholesale Market (RAWM) and the Farmer's Market of the Vegetable and Fruit Promotion Council of Kerala (VFPCCK) and for paddy through SupplyCo.

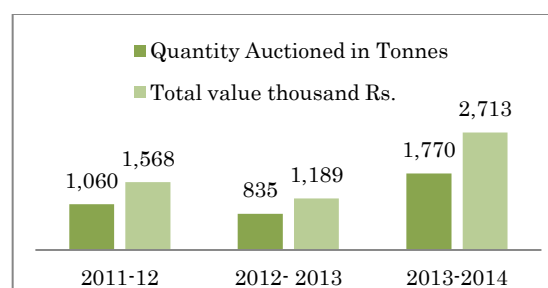
(1) Rural Agriculture Wholesale Market (RAWM)

RAWM at Sulthan Bathery has been developed with the funds from the EU through the Kerala Agricultural Markets Project (KAMP) under the Market Development Scheme of the Government of Kerala.

To support the vegetable farmers of the district and to encourage them to increase the area under vegetable cultivation, the Department of Agriculture has organized farmers into clusters. There are 24 clusters with a total membership of 982 farmers from all the four blocks of the district. Through the Agriculture Department, each cluster has been given an assistance of Rs. 50,000 in cash.

All the produce in RAWM is sold through auctions. Auctions are held every Monday, Wednesday and Friday and only wholesalers licensed by the RAWM authority are allowed to participate in the auctions. To encourage more farmers to use this facility, an Auction Committee is provided with funds from the Market Development Scheme. The member farmers of the clusters receive one rupee as transportation charge for every kilogram of produce brought to the market.

The sale of vegetables in the RAWM was low in 2012-13 and this is considered to be attributed to the less rainfall during the 2012 monsoon than normal one. Such variation in yield is unavoidable in areas where no facility for supplemental irrigation is available.



Three-Year Trend of Auctioned Total Volume and Price

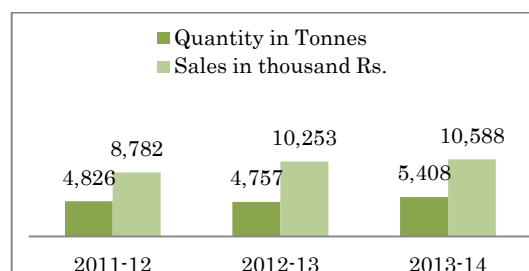
Source: Compiled by the JICA Survey Team (2014) based on the data from Rural Agriculture Wholesale Market

(2) Vegetable and Fruit Promotion Council of Kerala (VFPCCK)

VFPCCK was established in 2001 as a registered not-for-profit company. VFPCCK promotes the formation of SHGs as the basic unit of operation. In 2013-14, there are 724 SHGs with a membership of 10,540 farmers organised in all the 25 Grama Panchayats.

To become a member of an SHG supported by VFPCCK, banana farmers must cultivate at least 300 banana plants a year and vegetable farmers must cultivate a minimum of 100 cents (0.4 ha) per year. Each SHG is composed of 20-25 farmers. VFPCCK has training programme and participatory technology development programme. In addition to the training, the member farmers are also supplied with good quality seeds/seedlings and inputs at subsidised cost, credit and marketing support.

VFPCCK has also established farmer's markets called Swasraya Karshaka Samithi (SKS) in 21 Grama Panchayats in the district. Price fixing is done after studying the market rates of the vegetables; and a price of Rs.1-2 higher than the prevailing market price is fixed as the sale price for the produce of VFPCCK farmers.



Three-Year Trend of Total Production and Price

Source: Compiled by JICA Survey Team (2014) based on data from Vegetable and Fruit Promotion Council of Kerala

(3) Kerala State Civil Supplies Corporation (SupplyCo)

The Kerala State Civil Supplies Corporation known as SupplyCo was established in 1974 as the procurement agency of the Government of Kerala. Over the years it has established several retail stores – Maveli stores, Super Markets and People's Bazaar across the state that supply essential food items at subsidized rates to consumers. SupplyCo purchases paddy and various other agricultural commodities from farmers and traders. Purchasing paddy is an important activity of SupplyCo.

(4) Wayanad Agriculture Organic Consortium (WAOC)

The current strategies for marketing of Wayanad Agriculture Organic Consortium (WAOC) include participation in Biofach, an international organic festival, and other organic fairs and exhibition conducted in the state. WAOC receives bulk orders from both the domestic and the international buyers, but is unable to meet the demand due to paucity of funds. Marketing of organic produce is therefore almost a negligible activity for WAOC. There are a few NGOs such as WSSS who are able to market a part of the organic products produced by their farmers groups because of financial support received for marketing activities.

8.1.7 Agriculture Processing

Processing of agricultural produce has many advantages – produce can be stored for a longer period, can be transported conveniently, possibility of accessing far away markets, fetches a better price in the market, it provides opportunities for employment, contributes to food security by making produce available at times beyond production times and provide farmers a stable and profitable source of income. However, there are only a few processing facilities in Wayanad.

(1) Paddy

In spite of being a major producer of paddy, there are no drying yards, storage, milling or processing facilities in the district. SupplyCo has set quality parameters for procurement. Farmers face severe problems since quality parameters by SupplyCo are stringent and the facilities available in farmer's fields are inadequate to meet the quality standards. So even if SupplyCo provides farmers with a better procurement price than local rice traders, they are unable to realize any profits or benefits. A large number of small and marginal farmers therefore sell their paddy, immediately after harvest, to local private dealers, sometimes, at prices lesser than that offered by SupplyCo.

(2) Tea

According to the Agricultural Statistics 2013-2013 published by department for Economics and Statistics of the Government of Kerala in 2014, tea was grown in 5,306 ha in Wayanad, where about 13,966 ton of tea was produced. Much of this production comes from the large tea estates owned and operated by private companies and they have processing facilities and undertake the processing of all the tea produced in their estates.

(3) Coffee

Much of the coffee production in the district comes from small and marginal farmers. Till about 1995, only the Coffee Board and its approved agencies had the absolute right to purchase all the coffee produced under a pooling system. However from 1995 onward, small farmers were allowed to sell all their produce in the open market while large farmers could sell 70% of their produce in the open market. Much of the coffee in the district is sold as ripe berries to local traders immediately after harvest since storage and processing facilities are not available in the district.

(4) Spices

The Department of Agriculture has a pepper processing facility in Mullenkolli. WSSS has a spices processing facility at Mananthavady and organic spices purchased from their farmers as well as from other certified operations are processed here. A new processing unit 'Biowin' with larger processing facilities is being set up about 4 km away from the Mananthavady town under the technical guidance of the National Institute of Inter Disciplinary Science & Technology.

8.2 Livestock**8.2.1 Overview of Livestock**

The livestock kept in the district are cattle, buffalo, pig, sheep, goat, dog, rabbit, horse, mule, fowl, duck, turkey and quail. The latest numbers of major livestock are shown in the following table.

Number of Major Livestock in Wayanad in 2012

Block	Cattle		Buffalo	Pig	Goat	Poultry
	Cross bred	Indigenous				
Kalpetta	13,465	344	13,809	961	805	8,424
Mananthavady	18,021	565	18,586	1,147	1,150	7,957
Sulthan Battery	16,398	918	17,316	1,819	885	9,761
Panamaram	22,684	512	23,196	1,264	675	8,990
Total	70,568	2,339	72,907	5,191	3,515	35,132

Source: Quick Estimate Panchayat wise – Wayanad district – Livestock Census 2012

Among the animal components of the livestock segment, the number of cattle is largest, which implies the cattle rearing is a major income provided for the people.

Approximately 97% of the cattle population is exotic and crossbreed types. Cattle are reared not only for milk production but also for multifaceted reasons, such as natural asset, fertilizer production, meat production, etc.

8.2.2 Meat

The following table shows the estimated meat production volume and number of slaughtered animals in 2007-08.

Meat Production and Number of Slaughtered Animals

	Cattle	Buffalo	Goat and sheep	Pig	Poultry
Meat production (Ton)	589	691	112	177	378
Slaughtered number	11,513	12,440	12,614	4,061	-

Source: Animal husbandry statistics

Taking into consideration of the importance of livestock rearing for meat production, the Brahmagiri Development Society (BDS) launched an innovative community-based farmer-oriented project so called 'Malabar Meat'. A meat processing plant with a capacity to produce 45 ton of meat every day has just been inaugurated in April 2014, with the processing units of buffalo, goat and poultry, and the units for rabbit and pork is under construction. The meat plant designed will be the Asia's largest multispecies abattoir with India's first ISO-FSSC 22,000 standard.

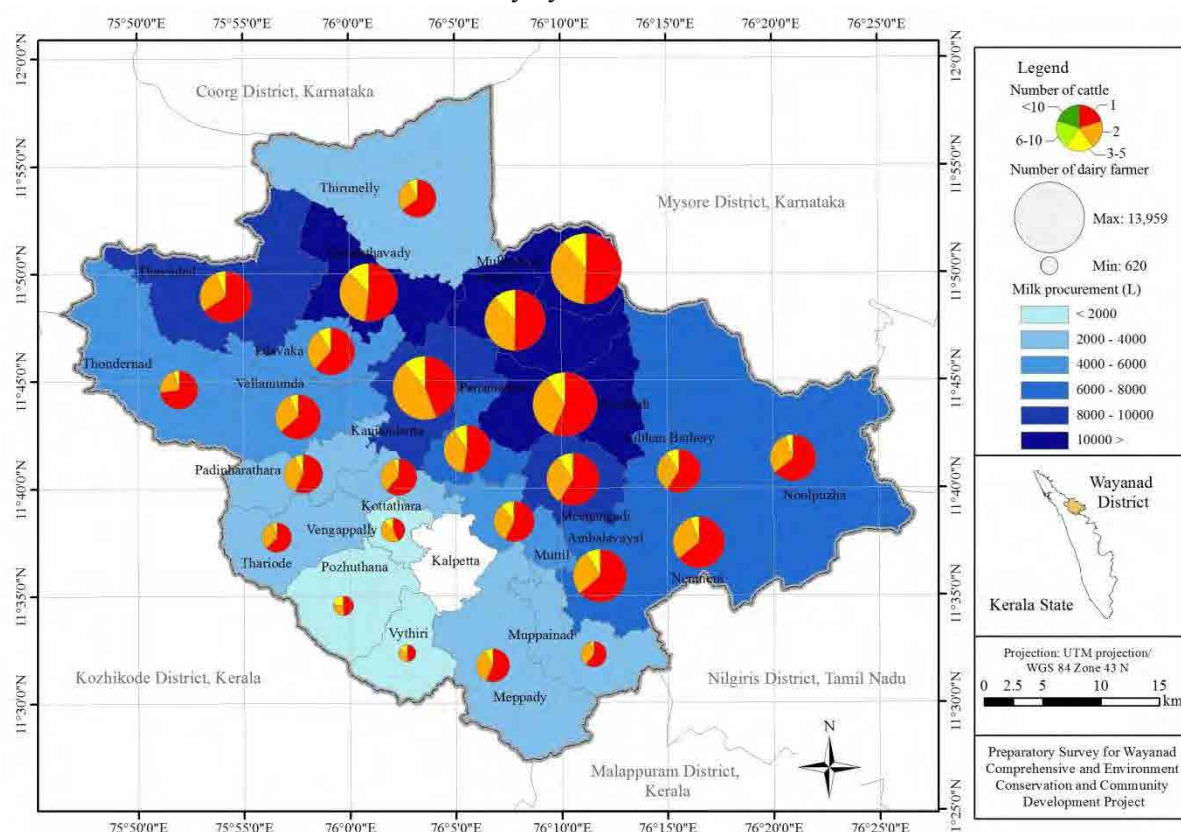
8.2.3 Milk and Dairy Production and Collection

(1) Dairy Farmer and Production

Milk procurement, distribution of active dairy farmers and the number of cattle owned are shown in the following figure. The figure show that more than 90% of dairy farmers own only one or two cattle. Mullankolly, Poothadi and Pulpalli are the three largest milk production Panchayats.

As of 2013, there are about 53,040 farmers who are registered with the Dairy Cooperative Society (DCS). Among them, about 20,000 active farmers sell milk constantly to DCS for processing and the volume of milk procured by DCS is estimated to be 150,000 L/day in 2013-2014. The reasons for this low percentage of farmers (30% of total farmers) selling milk to DCS are summarised below;

- Some farmers don't own cattle
- Some farmers don't own productive cattle (Age hasn't reached to reproductive stage or haven't give birth yet, and so on)
- Some farmers don't get enough milk production for sale (used only for home consumption)
- Some farmers sell their milk locally by their own route and don't sell to DCS



Milk Procurement, Number of Dairy Farmers and Number of Cattle

Source: Compiled by JICA Survey Team (2014) based on data from Dairy Development Department and MILMA

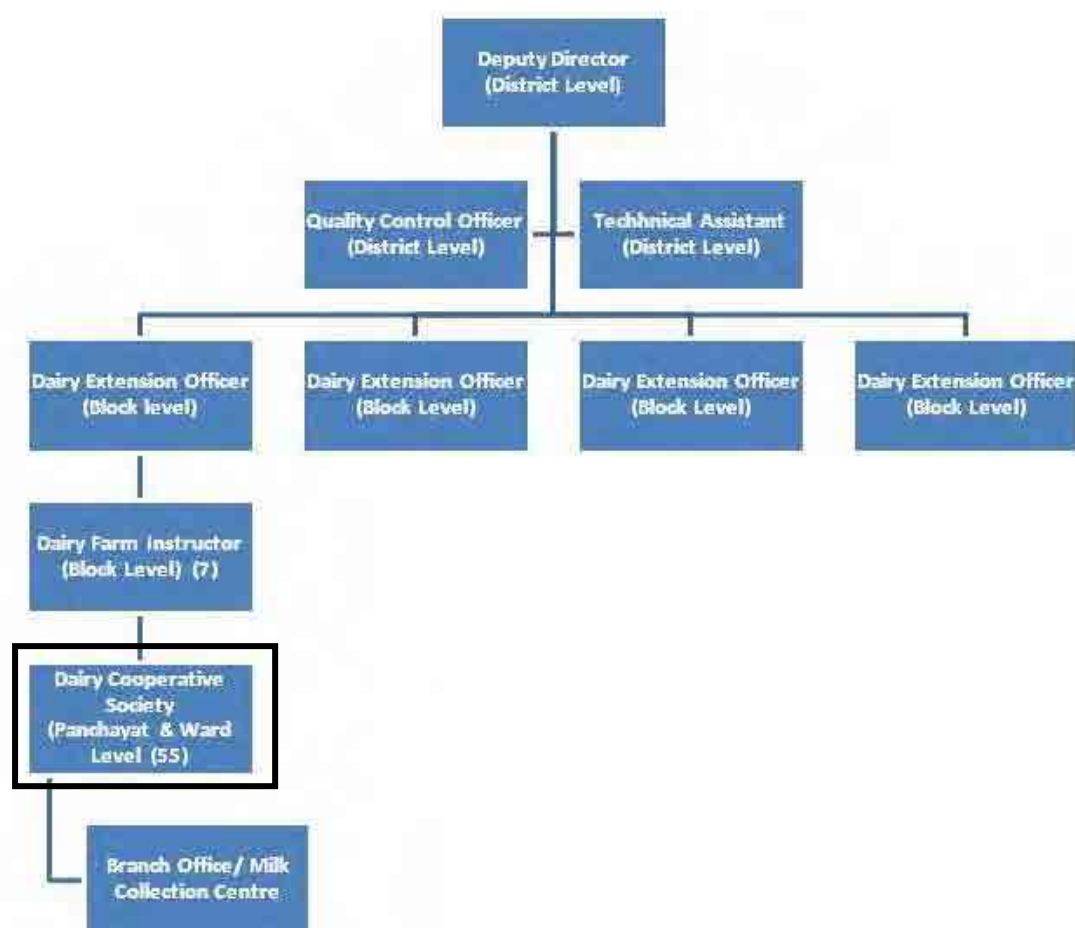
In order to increase dairy production, the Dairy Development Department (DDD) now encourages farmers to form Joint Liability Groups (JLG) to have better access to credit facilities for purchase of cattle without the need for collateral security. The Department has set up a total of 410 JLGs in all

blocks in the district. The total number of cattle purchased in all the blocks together is 774 and there has been an increase in milk production by 7,665 L/day.

Kudumbasree Mission is also promoting animal husbandry as an additional income generation and livelihood activity among its NHG members. A total of 137 units have been set up in 20 Grama Panchayats. The units include milch cow, goat rearing, poultry rearing, calf rearing, male and female buffalo rearing, rabbit rearing, quail rearing, pisciculture, and mini dairy units. An example of a successful initiative by the Kudumbasree Mission is the Bana Agro and Allied Producer Company (BAAPCO) started by the Padinharathara Community Development Society (CDS). There are 15 groups formed in the Padinharathara Panchayat, one group each in 15 wards of the Panchayat. Each group consists of 5 dairy farmers, taking the total number of members involved in this activity to 75 and they all are members of BAAPCO. The groups have close links with the DDD and the Animal Husbandry and Veterinary College in the district and these institutions provide technical guidance, timely assistance and extension services to ensure the well being of the animals.

(2) Collection System

DCS is the basic unit of DDD at the Grama Panchayat level, which has dairy farmers as members. DCS play a major role for milk collection. There are 55 DCS in the district, 53 of them are developed along the same lines with the Anand Milk Union Ltd (AMUL) of Gujarat, the first successful Dairy Cooperative Milk Marketing Federation in the country and are called Anand Pattern Cooperative Societies (APCOS); the other two are traditional milk cooperative societies. .



Organisation Structure of Dairy Development Department

Source: <http://www.dairy.kerala.gov.in/index.php/orgstructure> (Accessed on June 2014)

There are 32 DCS in which milk chilling centres have been established. The remaining 23 DCS which have no milk chilling centre can send their milk to the milk chilling centre closest to them. This

systematic milk collection system ensures that i) almost 96% of the milk procured in the district is chilled at the primary level itself; and ii) the milk procured from the dairy farmers is maintained under hygienic and optimum conditions before it is processed into various dairy products.

Although all the dairy farmers can sell their milk to DCS, the DDD encourages farmers to register themselves in the DCS. The registered farmers are given membership in the society. Those members who supply a minimum quantity of 500 litre of milk a year is categorized as “active member” and they are given several benefits from DCS including a share in the profits, voting rights, access to credit and insurance facilities, medical benefits, pension schemes, subsidy schemes for infrastructure development and other welfare measures.

Most of DCS collect milk through a well established network of collection routes. Along the routes there are several collection points where the farmer deposits his milk and gets a receipt for the quantity of milk supplied. From the collection points the milk is taken to the milk chilling centres. For some small scale DCS, the collection have been done at fixed point where farmers bring their products.

The samples taken are tested in a laboratory in DCS for parameters like milk fat, Solids Not Fat (SNF) and bacterial load. Based on the milk fat and the SNF values the price of the milk is fixed. For minimum price protection the fat content should be 3% and the SNF should be 8.5%. A minimum of Rs.27.17/L is given to the farmer if it meets this specification. Farmers have the option of choosing the frequency in which they would like to receive their payment – weekly, once in two weeks or monthly.

8.2.4 Milk Processing and Marketing

The district has two well known dairy processing units with their own brand name, Milma and Wayanad Milk. In addition, five DCS are supported by DDD to set up processing facilities and market their products under their own brand name.

(1) Wayanad Dairy - Milma

There are three Milk Unions in the state, which are affiliated to the state level apex level body for the marketing of milk and milk products - the Kerala Cooperative Milk Marketing Federation Ltd. (KMMF). The products of the three milk unions are marketed under the brand ‘Milma’.

Wayanad Dairy is one of the members of the Malabar Regional Cooperative Milk Producers Union Ltd. It was set up at Chuzali in Kalpetta in October 2008 and started functioning in April 2009. There are 53 DCS that supply milk to the Wayanad Dairy and it is the biggest dairy processing unit in the district with a processing capacity of 150,000 L/day.

Of the total quantity of milk procured by the Wayanad Dairy about 85% of the milk is processed and the remaining 15% is sold locally.

In addition to toned milk, Wayanad Dairy also processes several value added dairy products. Much of the profits come from these value added products that they produce – butter, ice cream, ghee, milk powder. Ghee produced by Wayanad Dairy is also being exported to the Gulf countries under the brand name ‘Milma’. In 2013, ghee sales to the gulf countries touched 33 ton.

The marketing network of ‘Milma’ is well established and they have about 9,000 outlets in the Malabar region including retail and bulk sales.

They try to give back about 80% of the profits to the producers and the remaining 20% is utilised for the following activities;

- Capital Costs (Interest and depreciation; for capacity expansions and working capital)
- Milk Production Expansion measures
- Market Expansion expenses including Advertisements
- Petroleum price hike effect on transport, milk packing plastic film, furnace oil for boilers
- Surplus/Lean Management expenses
- Purchase of milk from neighboring states during lean season and high demand days
- Income Tax on Profits

-
- Contribution to the State for the Dairy Farmer Welfare/ Pension Fund
 - Farmer Welfare measure.

KMMF has several own schemes to support farmers and to increase milk production. The schemes include following activities;

- Insurance for the farmer and cattle
- Accident insurance for the farmer
- Educational loans
- Pension scheme for farmers
- Heifer Development Program
- Fodder and feed production
- Supply of milking machine
- Supply of mechanical pressure washers, generators, and chaff cutters

(2) Sulthan Bathery Co-operative Milk Supply Society Ltd. - Wayanad Milk

The Sulthan Bathery Co-operative Milk Supply Society Ltd is the one established by DCS in 1963 in Sulthan Bathery, and their registered farmers are around 6,500 from Sulthan Bathery, Noolpuzha and Nenmeni Panchayats. Their processing plant established in Noolpuzha with a capacity of 20,000 L/day started operation in 2010. They market their products under the brand Wayanad Milk. The DDD and the Animal Husbandry Department have been extending technological and financial assistance to this Society.

They procure 22,000 L/day of milk from 3,200 producers, of which 17,000 litres is processed into Toned milk, Homogenized Toned milk, Curd, Ghee, etc. 50% of their profit is given back to the producers.

Although their plant is well equipped, their procurement volume has reached full capacity and expansion of the unit is needed.

(3) Others

In addition to the Sulthan Bathery Co-operative Milk Supply Society Ltd, DDD is also assisting five other DCS – Deepthigiri, Thariode, Kunnumbetta, Muppainad, and Meenangadi - in the district to set up processing facilities and market their products under their own brand name. The details of facilities available, processing volume and the status of operations are shown in the following table. In each DCS the facilities are not fully equipped yet and need financial assistance for beginning/continuing/expanding operations.

Details of DCS Supported by the DDD for Processing Dairy Products

Name of DCS	Brand Name	Present facilities Available	Processing Capacity	Total Milk procurement (litre /day)	Quantity of milk used for processing /packing (litre /day)	Products manufactured	Remarks
Deepthigiri	Deepthi milk	BMC 8000 L Bottle washing machine, Milk filling machine, Crown capping machine, Cooling machine, Generator etc	2000 bottles per day	3,181	140	Farm Fresh in Bottles	Now manual operation. Full Automation is in progress
Thariode	Thripathi milk	BMC 3000 L, Bottle washing machine, Milk filling machine, Crown capping machine, Cooling machine, Generator etc	2000 bottles per day	2,814	108	Farm Fresh in Bottles	Now manual operation. Full Automation is in progress
Kunnam betta	Kunnam betta Milk	BMC 5000 L, Hot water generator, Three stage plate heat exchanger, Packing machine, refrigeration unit, Deep freezer etc	500 L per hour	3,720	300	Pasteurized Milk	Now semi automatic method. Full Automation is in progress
Muppainad	Mupainad Milk	BMC 3000 L, Hot water generator, Three stage plate heat exchanger, Packing machine, refrigeration unit, Deep freezer, Single stage Plate heat exchanger etc	500 L per hour	2,166	0	Pasteurized Milk	Not commissioned
Meenangadi	Menma milk	BMC 5000 L x 3, Cream separator, Freezer, Packing machine hand operated, Lab equipment etc	15000 L per day	11,200	300	Fresh milk, Ghee curd	Now manual operation.

Source: Compiled by JICA Survey Team (2014) Data from DDD, Wayanad

8.3 Farmers in Wayanad

8.3.1 Land Holdings

As described in **Section 8.1.2**, 89% of holdings (154,883 out of 174,416) belong to marginal class, which holding size is less than one ha of land including premises, home garden, and farmland. To know further detail of land holding and agricultural form of marginal holdings, a questionnaire survey was conducted in five Panchayats. The detail of the survey is described in **Annex 5 in Volume III**.

8.3.2 Characteristics of Farmers by Land Holding Size

A total of 18 households (including seven (7) ST individuals or colonies) are selected for a questionnaire survey. Land holding size are sub-divided into six (6) categories based on the land size and social group; general small holdings (abbreviated as S with 1-2 ha), general larger marginal holdings (M-1 with 0.8-1 ha), general medium marginal holdings (M-2 with 0.4-0.8 ha), general smaller marginal holdings (M-3 with less than 0.4 ha), ST larger marginal holdings (SM-1 with 0.4-

1ha), and ST smaller marginal holdings (SM-2 with less than 0.4ha). The results are shown in **Section 5.3.2 of Annex 5 in Volume III** and the summary of which is as follows.

The results are summarized below;

- In most of household land includes both premises and farmland. An Adiya colony is identified in Panamaram Panchayat where land is too small to use for farmland so that all the area was occupied with premises. In general house is constructed on slope land and lowland is used only for farmland, except a household in Panamaram Panchayat who belong to M-3 category in which all the owned land belong to lowland.
- Cultivated plants in farmland are common in all areas regardless land size. In slope land, mix cropping based on tree cash crops such as coffee, pepper, areca, etc. is major way of cultivation. Paddy, banana and vegetable are grown for house consumption or for sale in lowland.
- Animal husbandry is very common and all the households own/owned animal except category ST-2, where there is so limited land. Cow is the most major livestock for dual purpose, for milk production and for dung collection. Cow dung is mainly used for their farmland but some households sale it to get cash income. There are five households who sold livestock. The reasons of selling livestock are for urgent need of cash (3), fodder shortage (1) and land limitation (1).
- Households in category S, M-1, M-2 and SM-1 own their lands in both slope land and lowland, except households in Meppady Panchayat where there are very few lowland available. On the other hands, households in category M-3 and SM-2 own their land only on slope land.
- Households in category S and M-3 lease land in lowland area. Households in Category S lease land as a group, on the other hand, Category M-3 lease land as individual.
- All households in Category S, M-1 and M-2 use loan. Loan access is lower in M-3, ST-1 and ST-2.
- The farm input and use for labour tend to be higher in lowland compare to slope land. The reason seems to be the difference of crop type. In lowland annual crops are dominated and they need more farm input and more labour intensive than perennial crops, which are cultivated mainly on slope land.
- The households in Category S have advantage of marketing than the other categories. One of them has strong connection with a dealer who can store the products until market rate becomes higher. The other has several dealers who can come to pick the products to the house. Most of households other than Category S bring their products to a local market or private dealer(s), without any incentives.
- The households in Category S and M-1 rely on their livelihood totally on their agricultural activities. On the other hand, the households in Category M-2, M-3, ST-1 and ST-2 rely on their livelihood partly or totally on MGNREGA and/or wage labour.

The results are summarized in Table below;

Summary of Characteristics of Agriculture by Land holding Size

Category	Small (S) 1.0~2.0 ha (2.5~5.0 acre)	Marginal (M-1) 0.8~1.0 ha (2.0~2.5 acre)	Marginal(M-2) 0.4~0.8 ha (1.0~2.0 acre)
Description	-Own both Slope land and Lowland -Cultivation in leased land in lowland as group -Loan access is high -Input is high -Market advantage	-Own both Slope land and Lowland -No cultivation in leased land -Loan access is high -Input is medium -No marketing incentive -Livelihood only from	-Own both Slope land and Lowland -No cultivation in leased land -Loan access is high -Input is low -No marketing incentive -Livelihood from agriculture

	-Livelihood only from agriculture -Animal husbandry	agriculture -Animal husbandry	and labor -Animal husbandry
Category	Marginal(M-3) Less than 0.4 ha (1.0 acre)	ST(SM-1) 0.4~1.0 ha (1.0~2.5 acre)	ST(SM-2) Less than 0.4 ha (1.0 acre)
Description	-Own only in slope land - Cultivation in leased land in lowland as individual -Loan access is low -Input is limited -No marketing incentive -Livelihood from agriculture and labor -Animal husbandry	-Own only in slope land -Partially cultivated in leased land in lowland -Loan access is low -Input is low -No marketing incentive -Livelihood from agriculture and labor -Animal husbandry	-Own only in slope land -No cultivation in leased land -Loan access is low -Input is limited -No marketing incentive -Livelihood from agriculture and labor -No livestock

Source: JICA Survey Team (2014)

Other findings from the survey are as follows:

- The general marketing method except category S is that they sell their product soon after harvesting, by bringing them to the nearest local market by themselves by using local transportation. In general the quantity of the product is fairly small and there is no negotiation of the price.
- Generally it is women who go to MGNREGA and men don't go so often. The low wage of MGNREGA³ compare to other jobs (400 Rs./day for forest relating work or 500 Rs./day for construction work, for example) is the main reason for men for non participation of MGNREGA work. The delay of payment is another reason that men tend to choose a work which payment is immediately. Many men mentioned that they prefer to stay home without earning any money than going to hard work with low wage. On the other hand, women have no choice to go to whatever kind of wage work as the main actor to get daily income for household.
- Larger size holdings (Category S and M-1) tend to receive more external support for agricultural subsidies and loans. Some of smaller holdings think that loan interest is too high for them to use so that loan is something to make rich people richer.
- The biggest challenge for small holdings is how to earn money for daily expenditure. Tree crops are easy to manage but they take long time until they start production and also most of crops have only once of production in a year. They prefer annual crops which take short time for harvesting such as paddy or vegetables, but they don't have access to lowland to cultivate them.
- Compare to general community, in ST communities especially in Paniya, group formation looks difficult because they think there are several problems and misunderstanding among households in a colony and they have very few intention to collaborate with other families.

8.3.3 Land Holding Size and BPL

The results of the household survey show that there are no BPL households in category S and M-1. In M-3, SM-1 and SM-2, all the households belong to BPL except a household of Kuruma tribe in Meppady, where a family member is government official so that the household is categorized as APL. The results suggest that less than 0.8 ha (2 acre) is the indicative largest landholding size among BPL families. This clarification corresponds with the line that livelihood of household relies not only for agriculture but also labour work to fill the gap of earning and expenses.

One important remark is that there are many differences among the BPL households by landholding size. In households in category M-2, there is clear separation between land for house and farmland. On

³ The notified rate is Rs. 212 per day.

the other hand, households in category M-3 tend to have difficulty to differentiate the land between house and farmland. They tend to have kitchen garden or animal shed just besides the building.

In addition, ST households tend to have different characteristics than general social category so that special attention may be needed.

8.3.4 Irrigation Practice of BPL Household

The scale of the irrigation being practiced by most of BPL households who have their own lands is very small which area varies usually from 0.0025ha (5x5m) to 0.0050ha (5x10m). As for the small irrigation for the area less than 15ha, the Grama Panchayat Office provides guidance as the Minor Irrigation Divisional Office delegates the function the Grama Panchayat Office.

Field investigations revealed that upland crops such as the yam, the taro, the ginger, etc. are cultivated in the plots with irrigation water supplied to the root zone using a bucket. The water for irrigation is taken from the individual water tank in the house yard. The water in the individual tank is supplied through the PVC pipe from the main water tank in the colony. The water source is the dug (open) well located at a low lying area. The diesel pump is used for lift up to the main water tank. The cropping with irrigation is practiced both in the rainy season (supplementary irrigation) and the dry season.

Chapter 9 Forest and Forest Management

9.1 Forest Administration in Wayanad District

9.1.1 Divisional Setup in Wayand District

The forest land in legal status of Wayanad District extends in 86,205.16 has confirmed by the Survey Team in 2014, which accounts for 40.47% of the total district area (213,100 ha)¹. The forest land is extending in the three divisions set up by the Kerala Forests and Wildlife Department (KFWD), namely Wayanad North, Wayanad South and Wayanad Wildlife Divisions. The former two territorial divisions belong to Northern Circle whose HQ is located in Kannur while Wildlife division belongs to Wildlife Circle whose HQ is located in Palakkad. The aerial distribution of the three divisions is given in the map attached as **Map 7**.

9.1.2 Institutional Setup of Wayanad Territorial and Wildlife Division

The three divisions were constituted in the administrative systems of forest management of Wayanad District according to the government orders as follows.

Constitutions of the Three Divisions in Wayanad District

Division	Government Order to Constitute the Divisions
Wayanad North	Kerala G. O. (MS), No. 5/90/F&WLD, dated 29.01.1990, Trivandrum
Wayanad South	
Wayanad Wildlife	Kerala G. O. (MS), No. 152/85/AD, dated 10.05.1985, Trivandrum

Source: Related Government Documents

Wayanad District has four categories of the forest land in legal status in its area, namely: i) reserved forests (RF); ii) vested forests; iii) ecologically fragile land (EFL); and iv) proposed reserve. These forest categories were constituted by the following Government Act.

Category of the State Forest Land in Wayanad District

Forest Category	Main Features
Reserved Forest	• The forests reserved under the section 19 on Kerala Forest Act, 1961 and those included as notified under the Section 4 of said act.
Vested Forest	• Any forests vested in the Government under Section 3 of the Kerala Private Forest (Vesting and Assignment) Act, 1971. As on 10.05.1971, target forests have been surveyed, demarcated and notified by the custodian of vested forests (government)
Ecologically Fragile Land (EFL)	• “Ecologically Fragile Land” means any portion of land held by any person and lying contiguous or encircled by a reserved forest or vested forest or any other forest land owned by the Government and predominantly supporting natural vegetation; and any land declared to be EFL under the Act, the Kerala Forest (Vesting and Management of Ecologically Fragile Lands) Act 2003 by the Government by notification in the official Gazette under Section 4 of Kerala Forest Act.
Proposed Reserve	• Proposed Reserve is a proclaimed area by serving notice as per the provisions of Section 6 of the Forest Act 1961 referred to in Rule 4 to every known or reputed owner or occupier of any land included in or adjoining the land proposed to be constituted a Reserved Forest

Source: Relevant Acts and documents

¹ Working Plans for Wayanad North Division (2014/2015 - 2023/2024) and for Wayanad South Division (2012/2013 - 2021/2022). Management Plan for Wayanad Wildlife Division (2012 - 2022). The above mentioned figure of the state forest land (86,205.16 ha) is smaller than the figure of 807.74 km² which was defined as forest area in land use of Wayanad district in **Section 1.3.1**. This is because the latter figure also includes the forests outside of the state forest land.

The following table shows the physical area of each forest category at the range level in the respective Forest Divisions.

Areas of Each Forest Category under Forest Ranges

Unit: ha

Forest Divisions	Forest Ranges	Reserved	Vested	EFL	Proposed RF	Total
North Wayanad Division	Begur	7,336.10	1,573.62	184.50	1,506.40 as PoB ¹⁾	10,600.62
	Mananthavadi	0.00	2,604.72	182.83	0.00	2,787.55
	Peria	6,066.30	2,406.93	528.36	0.00	9,001.59
	Sub Total	13,402.40	6,585.27	895.69	1,506.40	22,389.76
South Wayanad Division	Kalpetta	1,351.00	6,205.00	744.00	303.40	8,603.40
	Meppady	0.00	11,422.00	1,033.00	65.00	12,520.00
	Chedleth	5,409.00	2,839.00	0.00	0.00	8,248.00
	Sub Total	6,760.00	20,466.00	1,777.00	368.40	29,371.40
Wayanad Wildlife Division	Tholpetty	7,767.00	0.00	0.00	0.00	7,767.00
	Kurichyat	10,645.00	0.00	0.00	0.00	10,645.00
	S. Battery	8,603.00	0.00	0.00	0.00	8,603.00
	Muthanga	7,429.00	0.00	0.00	0.00	7,429.00
	Sub Total	34,444.00	0.00	0.00	0.00	34,444.00
	Grand Total	54,606.40	27,051.27	2,672.69	1,874.80	86,205.16
% to Total (Wayanad)		63.34	31.38	3.10	2.17	100.00
Total (Kerala)		917,613.16	183,779.57	29,537.81	1,130,947.54	
% to Total (Kerala)		81.14	16.25	2.61	100.00	

Sources: North and South Wayanad Forest Division Working Plan (2012-2022) and Wayanad Wildlife Division Management Plan (2011-2021), Kerala Forest Department

- 1) PoB, Prohibitory Order Book area: In the early days the area of Dindumal and Thirunelli villages Mananthavady taluk of Wayanad district were earmarked for military purposes and recorded in Prohibitory Order Book (P.O.B.) kept in the Revenue Department. The entire area comes within Begur range of North Wayanad division. The area continues to be under the control of Forest Department.

The geographical distribution of the state forest land in the divisions is shown in **Map 8**.

9.1.3 Human Resource of Wayanad Forest and Wildlife Divisions

According to the echelon system under the divisional offices, the staff members in the Forest Division and Wildlife Division are employed and assigned with the numbers as indicated in the following table.

Staff Arrangements in the Divisional Offices

Posts	Wayanad North		Wayanad South	
	Sanctioned number	Present number	Sanctioned number	Present number
Divisional Forest Officer	1	1	1	1
Senior Superintendent	1	1	1	1
Junior Superintendent	1	1	1	1
Range Forest Officer (RFO)	3	3	4	4
Deputy Range Officer	5	5	1	1
Section Forest Officer	19	18	25	25
Beat Forest Officer	78	71	59	50
RF Watcher	3	3	1	1
UD & LD Clerk	17	17	19	19
Statistical Assistant	1	1	0	0
Surveyor	1	1	1	1

Source: Working Plan, Wayanad North/South Division (2012-2022)

Staff Arrangements of Wayanad Wildlife Division Office

Post	Sanctioned number	Present number
Wildlife Warden	1	1
Ass. Wildlife Warden	4	4
Ass. Forest Veterinary Officer	1	1
Deputy Director (Wildlife Education)	1	0
Deputy Ranger	6	6
Forester	28	26
Forest Guard	54	51
Reserve Watcher	5	4
Mahouts and Cavadies	7	7
UD & LD Clerk	16	13

Source: Working Plan, Wildlife Division, JICA Survey Team, 2014.

9.1.4 Facilities and Mobility of Wayanad Forest and Wildlife Divisions**(1) Facilities of Divisional Offices**

To conduct the operations scheduled in their annual operation plan, Wildlife Division office is equipped with the following facilities/equipment. As for the territorial division offices, however, no data on the facilities/equipment is available.

Facilities Equipped in Wayanad Wildlife Division Office

Facilities (Quantity)
Computers (12), GPS (13), Camera (3), Binocular (4), LCD Projector (1), Tranquilising guns (3), Wireless sets: Fixed sets (8), Mobile sets (5), Walkie-talkies (44)

Source: Wayanad Wildlife Division Office,

(2) Mobility of Divisional Offices

Each divisional office is also equipped with the following types of vehicles and motor bikes to facilitate the mobility of the staffs to fulfil their mandates. The figures include those managed by the range offices under the divisional office.

Mobility in the Divisional Offices

Mobility	Wayanad North	Wayanad South	Wayanad Wildlife
Jeep (Mahindra)	9	5	8
Vehicle: Sedan type	1	3	1
Motor cycle	13	3	6

Source: Divisional Working/Management Plan, Wayanad North, South and Wildlife Division

9.1.5 GIS/MIS Expertise and M&E System of Wayanad Forest and Wildlife Divisions**(1) GIS Data Management used in the Forestry Operation**

Vegetation and land use map prepared by the Geo-Informatics Centre of the Department in Trivandrum is used in the field operation. For the purposes of field operation, the hand drawn maps are prepared and used by RFO. There is no system of GIS data management and utilization in the three divisional offices.

(2) MIS (Management Information System)

Only the upper division clerks (UD Clerk) use the computers when they prepare the official documents. All information on the forest and sanctuary management is customarily kept as hard copies in the office files. There is neither management information system (MIS) nor intra network within/between the key offices and stations in their mandated areas.

(3) M&E (Monitoring and Evaluation System)

Monitoring and evaluation are conducted to assess the results and consequences of the operations done in the state forest land and provides critical information in improving the approaches and methodologies of the operations in the coming period. Basically there is no comprehensive system of monitoring in the divisional office except specific operation such as *vayal* (grassland) management in the Wildlife Division.

9.1.6 VSS and EDC in Wayayad District

The Kerala Forestry Project (1998-2002) funded by the World Bank supported the Kerala Forest Department to establish VSS (*Vana Samrakshana Samithi*, Village Forest Committee) and EDC (Eco-Development Committee) at the Panchayat level covering the whole State.

The VSS/EDCs were supposed to become a community-based body to implement Participatory Forest Management (PFM) in the state forest land. To implement PFM, a guideline was prepared by the World Bank Project in 1998, which directed to establish the funds to facilitate its initial processes at community level. However no policies or actions had been taken by the Government to embody the establishment of the fund since then. As described in **Section 9.6**, the major activities conducted by VSSs/EDCs are reforestation and its maintenance using the fund of National Afforestation Program (NAP), NTFP collection, guides for the tourists, etc. While the reforestation and maintenance is conducted as a group activity, the NTFP collection and the tour guides are done more on an individual basis without being organized as a group activity.

The following table shows the current numbers, area under management and the number of family members of the VSSs/EDCs.

Division Wise VSSs/EDCs in Wayanad district

Division	Total Number of VSS/EDC	Forest Area under VSS/EDC (ha)	No. of Members		
			SC	ST	Others
Wayanad North	17	14,100	17	1,556	784
Wayanad South	18	4,580	65	986	2,261
Wayanad Wildlife	14	3,990	21	1,000	172
Total	49	22,670	103	3,542	3,217

Source: JICA Survey Team (2014) based on the field survey

9.2 Present Condition of the Forest in the State Forest Land**9.2.1 Forest Cover in the State Forest Land**

The Survey Team analyzed and interpreted the satellite images of Wayanad District taken in 2013 (IRS-ResourceSat-2, LISS-IV) and identified the forest covers according to its degree of crown density in the state forest land. The following table shows the forest land area of different crown density, which are also illustrated in **Map 12**. “Very Dense” forest extends in 29,533 ha, which accounts 13.87 % of total district area. Moderately dense and open forest are 41,482 ha and 11,423 ha which occupy 19.48 % and 5.37 %, respectively.

Crown Density in the State Forest Land in Wayanad District in 2013

	Very Dense Forest	Moderately Dense Forest	Open Forest	Scrub Forest & Others	Total of State Forest Land	Total District Area
	(a)	(b)	(c)	(d)	(e=a+b+c+d)	(e)
Area (ha)	29,533	41,482	11,423	3,767	86,205	212,917
% to District Area	13.87	19.48	5.37	1.77	40.49	100.00

Source: Results of the satellite image analysis and interpretation by JICA Survey Team, June 2014

9.2.2 Forest Types in the State Forest Land

The satellite image analysis by the Survey Team have identified four major types of forests in the area of the state forest land, namely 1) Evergreen/Semi evergreen forest, 2) Deciduous forest, 3) Forest plantation, 4) Scrub forest. Other land these grassland and other unidentified area were delineated on the image. The figures of identified forest types are indicated in the table below. Around one third of the forest land is covered with evergreen/semi-evergreen forests (32.34 %). Including deciduous forest (24.91 %), 57 % of the state forest land is occupied by these two types of natural forests. **Map 13** shows their spatial distribution in the state forest land.

Forest Types in the State Forest Land in 2013

Unit: ha

	Evergreen/Semi Evergreen Forest	Deciduous Forest	Forest Plantation	Scrub Forest	Grass- land	Others (unidenti- ed area)	Total of State Forest Land
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Area (ha)	27,875	21,471	16,392	8,939	4,632	6,896	86,205
% to State Forest Land	32.34	24.91	19.02	10.37	5.37	7.99	100.00

Source: Results of the satellite image analysis and interpretation by JICA Survey Team, June 2014

As indicated in the map evergreen and semi ever green forests are mainly distributed in the mountain areas in north and western edge of the district, while deciduous forests and plantations occupy the large part of the Wildlife Sanctuary located in the eastern area, where gentle hills, plains, and depressions are the dominant landscape.

Apart from the natural forests, plantations are distributed in the state forest land in the three divisions. Teak and Eucalyptus are the major planted species in Kalpetta and Meppady ranges in Wayanad South Division and in the Wildlife Sanctuary.

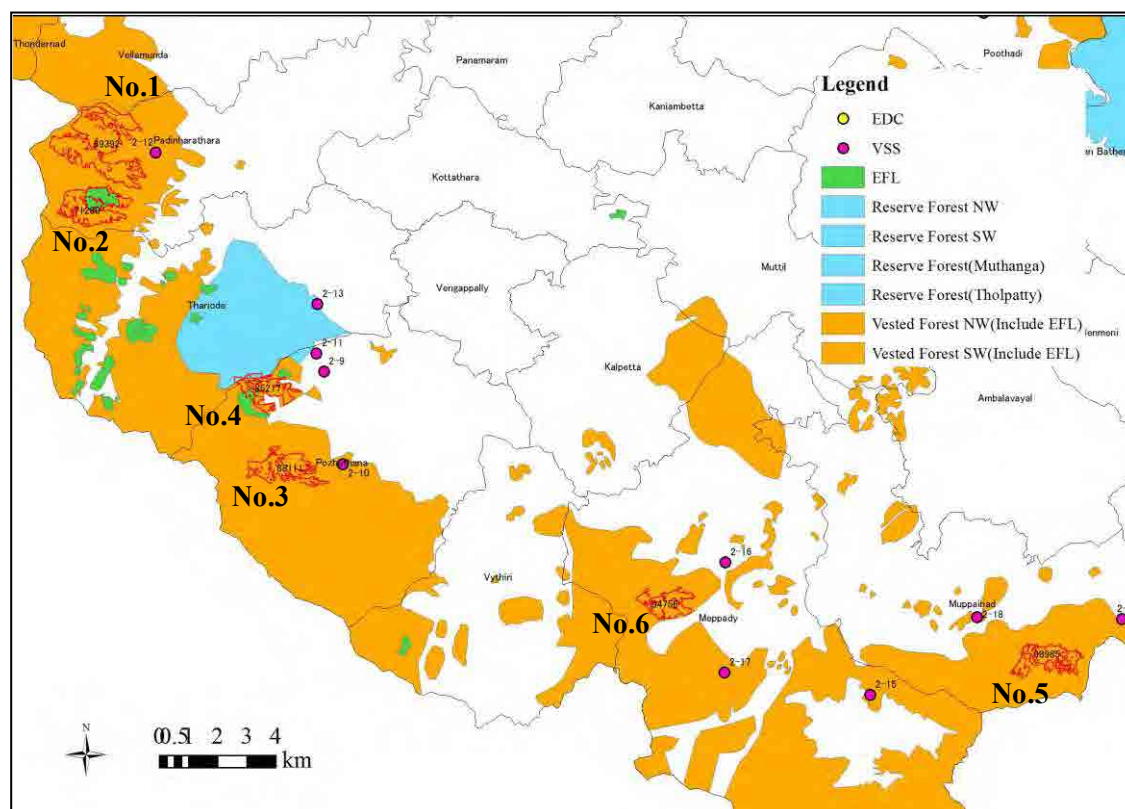
9.2.3 Open Areas in Wayanad District

The Survey Team conducted the remote sensing analysis to identify the large scale contiguous areas (more than 100 ha) which did not have woody vegetation but were covered with grasses or no vegetation. They are listed in the following table and indicated the location map below. As is shown the major parts of the open area are categorized as Vested Forests (VF) which were originally privately owned but taken into the state forest land in the 1970's.

Major Open Areas Identified in the Image Analysis and Their Aerial Breakdown

Division	No. on the location map	Total area (ha)	RF (ha)	VF (ha)	EFL (ha)	Others (ha)
Wayanad South Division	1	385.97	0.00	385.97	0.00	0.00
	2	196.91	0.00	133.54	63.37	0.00
	3	149.12	0.00	149.12	0.00	0.00
	4	112.45	10.94	92.45	8.90	0.16
	5	128.15	0.00	128.15	0.00	0.00
	6	106.49	0.00	106.49	0.00	0.00

Source: JICA Survey Team (2014) based on the satellite image analysis.



Location Map of the Major Open Areas (Marked with Red Boundaries)

Source: JICA Survey Team (2014)

Further investigation on the ground conditions of the above open areas using Google Earth revealed that they were covered with grass or scattered rocky patches without vegetation. The next table summarizes the findings in the investigation. They imply the surface soils in such areas have not been developed yet, and suggest that these areas are not suitable or not required for the regeneration of natural forests or the establishment of plantation.

Ground Vegetation of the Major Open Areas

Division	No. on the map	Ground Vegetation
Wayanad South Division	1	Grassland with scattered rocky patches
	2	Grassland with scattered rocky patches
	3	Fallow with rocky patches
	4	Grassland with scattered rocky patches
	5	Bare rock surface
	6	Fallow and grassland with rocky patches

Source: JICA Survey Team (2014) based on the satellite image analysis.

9.3 Wildlife and Biodiversity

9.3.1 Biodiversity of Plant Species

A study was conducted during August 2010 and December 2012 by M.S.Swaminathan Research Foundation in Kalpetta in Wayanad district. The purpose of the study was to identify the diversity of plant species in the Wayanad District. As a major finding of the field survey 136 endemic taxa

comprising 83 genera of 38 families of flowering plants were identified. The following table shows the number of endemic species of major families found in the survey.

Family Wise Number of Endemic Species Found in the Study

Family Name	No. of Species
<i>Lauraceae</i>	17
<i>Rubiaceae, Euphorbiaceae</i>	11
<i>Myrtaceae, Annonaceae</i>	10
<i>Anacardiaceae</i>	9
<i>Celastraceae</i>	6
<i>Ebenaceae, Dipterocarpaceae, Symplocaceae</i>	5
<i>Flacourtiaceae, Sterculiaceae, Meliaceae, Caesalpiniaceae</i>	4

Source: "Endemic Trees of Western Ghats-A Check List from Wayanad District, Kerala, India", in *International Journal of Plant, Animal and Environmental Sciences*, Vol.-3, Issue-2, April-June 2013.

9.3.2 Wildlife Sanctuary

The Wayanad Wildlife Sanctuary was declared as per the WLP 1972 under Section 18 vide G.O. (MS) 182/73/AD dated 30th May 1973 as a part of Wayanad territorial division. It was in 1985 when the Sanctuary was shifted under Wayanad Wildlife Division which was newly constituted as an administrative unit of the Sanctuary vide G.O. (MS) 125/84/AD dated 10/05/1985. Wayanad Elephant Reserve was further declared by G.O (P) 19/2002 dated 2/4/2002. The geographical distribution of Wayanad Wildlife Division is given on **Map 7**.

Looking at the history and interactions between the wildlife and the fringe communities, the situations vary in each range. Around 50% of two northern range areas such as Tholpetty and Kurichiyat are occupied by plantations of Teak and Eucalyptus. These plantations were originally established in the mid of the 20th century when the Sanctuary had not been declared. Since then the FD has been maintaining these plantation, however no forestry operation have been done such as logging and harvesting because of the policies and the provisions of the government decrees in environmental conservation issued since the 1970's.

Two ranges namely, Sultan Battery and Muthanga have large scale old settlements. Some of them have been entitled as revenue villages, where is excluded as enclosures from the jurisdiction of the state forest land while other settlements are still the subject to relocation.

9.4 Forest Utilization by the Community and the Industry

9.4.1 VSS/EDC as a Body to Implement Participatory Forest Management (PFM)

The JICA Survey Team conducted a field review in June 2014 to grasp an overall situation of VSSs/EDCs established in the district. The location of VSS and EDC are indicated on **Map 14**. The following table shows the number, types, location and members of the groups. In the table shown below, "AVSS" and "AEDC" are the sub-categories of VSS or EDC, which indicate the groups constituted only with the Scheduled Tribe (ST) people. They are the majority in the groups of Wayanad North and Wayanad Wildlife Divisions. While in Wayanad South Division, people categorized "Others" such as those of general caste are the majority of the group members.

Divisional Summary of VSSs/EDCs

Division	No.	VSS/EDC AVSS/AEDC	Location ¹⁾			Members		
			In	Fringe	Out	SC	ST	Others
Wayanad North	17	8 VSS / 9 AVSS,	7	14	4	17	1,556	784
Wayanad South	18	17 VSS / 1 AVSS	8	15	1	85	986	2,261
Wayanad Wildlife	14	13 EDC / 1 AEDC	11	6	2	21	1,000	172
Total	49	25 VSS / 10 AVSS,	26	35	7	123	3,542	3,217

Division	No.	VSS/EDC AVSS/AEDC	Location ¹⁾			Members		
			In	Fringe	Out	SC	ST	Others
		13 EDC / 1 AEDC,						

Source: JICA Survey Team (2014) based on the visit to VSSs/EDCs in the field.

Note 1): Multiple answers are indicated. "Fringe" means that customarily perceived area of the community. It shares boundary with adjacent state forest land, overlaps with the state forest land.

The following table summarizes the current performance, number of VSS (including AVSSs) according to the types of land title, and their management areas.

Major Profiles of VSSs in Wayanad North and South Division

Division	Total No. of VSS	Current Activeness ¹⁾	Management Area (Total area at range level, ha)
North Division	17	Active: 15, Non-Active: 2	Reserve forest: 11,838 Vested forest: 2,262
South Division	18	Active: 15, Non-active: 3	Reserved forest: 1,678 Vested forest: 2,886

Source: JICA Survey Team, Note: 1) Current activeness was assessed according to the existences of regulated managements such as record keeping, income/expenditure statement, work report, and monthly meeting. 2) Multiple answers are indicated.

Most of the VSSs are "active" in a sense that the president, the secretary and other representatives stay in their positions and keep their basic records and management work. A few VSSs are not active at present due to their internal problems, accidents, etc.

The following table summarizes major profiles of current status of EDCs (including AEDCs) in and around the Wildlife Sanctuary. Different from the VSSs, there are only two groups which are "active" among 14 groups. One of the reasons is quite limited opportunities of being employed for the forestry works arranged by the FD in the Sanctuary.

Major Profiles of EDCs in Wayanad Wildlife Division

Range	Total No. of EDC	Current Activeness ¹⁾	Management Area (Total area at range level, ha)
Tholpetty, Muthanga, Kurinchiat, Sulthan Battery	14	Active: 2, Non-active: 12	Reserved forest: 3,990

Source: JICA Survey Team, Note: 1) Current activeness was assessed according to the existences of regulated managements such as record keeping, income/expenditure statement, work report, and monthly meeting. 2) Multiple answers are indicated.

9.4.2 Non-Timber Forest Products (NTFPs) and Their Market

In Kerala, Non-Timber Forest Products (NTFPs) are marketed through different channels depending upon several factors such as nature of the product, demand, distance to the market, etc. The first channel is to sell NTFPs through various institutions while the second channel is through private trader.

There are number of institutions involved in the management of NTFPs in Kerala. Important ones among others are: (i) Forest Department; (ii) The Kerala State Scheduled Caste Scheduled Tribe Development Co-operative Federation Ltd.; and (iii) Tribal Service Co-operative Societies. In Wayanad, NTFPs are collected mainly by the Tribal Service Co-operative Societies as per the agreement between Divisional Forest Officers and Presidents of Scheduled Tribal Co-operative Societies.

9.4.3 Forest Based Industries

Wood is an important industrial raw material in Wayanad District. The existing wood based industries in the district are mostly sawmills and small-scale industries producing furniture, splints, veneer, packing cases, etc. (Working Plan of Wayanad North and South Divisions).

Teak and rosewood are always in great demand. Bulk of the timber produced by the Division is consumed in the district itself, as there is high demand for timber. Among teak thinning material, only timber is transported to Sales Depot. The teak poles are auctioned through dumping depot at various ranges.

Sawmills: Sawmill industry has developed in the past two decades because of the rising demands for timbers. It is concentrated in and around the timber distribution centres and depots. Currently, most of them deal with medium to small scale timbers.

Plywood Industries: The softwood is mostly consumed by plywood and match wood industries. They are *Bombax malabaricum*, *Vateria indica*, *Mangifera indica*, etc. The demand for plywood increased sharply as it was found to be very light, strong, tough, easy to work and handle. One of the major consumers of these softwood species is *Wetern India Plywood Pvt. Ltd.* in Kannur which is located in the west of Wayanad district

Pulp and Paper industry: Bamboo, Eucalyptus and Acacia are used for pulp and paper industries. The demand for Eucalyptus was from the industries like Hindustan Newsprint Ltd., Kottayam and Travancore Reysons, Ernakulam.

Firewood: There is ever increasing demand for firewood in home and neighbouring states. Appreciable quantity of firewood finds its way to Mysore, Bangalore and Coimbatore. The price for firewood in the local market varies from Rs.1,000 to 1,500 per ton.

9.5 Livelihood of Forest Dependants

The principal tribes living in the forest plateau are Mullukurumas, Paniyans, Kattu Naikans, Uralis and a few Kurichiars. The Kattunaikans are considered as the least civilized among the forest dependent tribes and subsist on the forest by collecting NTFP such as honey, tubers, fruits, medicinal plants and others. The Paniyans used to practice shifting cultivation in the virgin forest. At present, they live by extending labour to neighbouring estates as well as to the Forest Department. Overall analysis of the survey by Kerala Forest Research Institute (KFRI) shows that the main sources of daily cash income of the tribal people are the daily wage labour which is followed by agricultural-related works while non-tribal people are mainly depending on agriculture as their income source followed by the daily wages.

9.6 Achievements of PFM in Wayanad District

9.6.1 Activities undertaken by VSS and EDC in Wayanad District

(1) Activities Undertaken by VSSs

VSSs are engaging in forestry-related activities and collection/selling of NTFPs to the relevant organizations. The following table gives the overall view about the currently ongoing activities.

Forestry-related Activities by VSSs in North and South Divisions

Division	Total No. of VSS	Number of members	Number of VSS/EDC engaging in the activity	Types and scale of NAP and Forestry Related Activities conducted by VSS/EDC
Wayanad North	17	SC: 17, ST: 1,556, Others: 784	Harvest of Timber wood ¹⁾ : 10, Collection of Fire wood: 17	New plantation (softwood) in 2013: 5~20 ha per one VSS, Maintenance of plantation: 10~20 ha per one VSS
Wayanad South	18	SC: 65, ST: 986, Others: 2,261	Harvest of Timber wood ¹⁾ : 14, Collection of Firewood: 17	New plantation: 4~20 ha, Maintenance: 10~30 ha, Fire protection: No figures available. One VSS: Cane (8 ha), Medical plantation (10 ha), Nursery (30,000

Division	Total No. of VSS	Number of members	Number of VSS/EDC engaging in the activity	Types and scale of NAP and Forestry Related Activities conducted by VSS/EDC
				bamboo seedlings)

Source: JICA Survey Team (2014), Note: 1) It is conducted in compliance with the relevant law and regulations. FD is responsible to approve it prior to the harvest. The target of the harvest is the trees planted by the members.

Most of the groups are collecting fire woods in the state forest land, which implies the forest resources adjacent the community are in general important sources of their domestic energy. Meanwhile the groups are engaging in planting seedlings in new plantations and doing their maintenances in the following years. The scales of plantation are generally small, ranging from four (4) to 30 ha, which has been implemented by the budget of NAP (National Afforestation Program).

The VSSs members are also engaging in NTFP-related and other activities. The following table summarizes their key features.

NTFP-related and Other Activities by VSSs in North and South Divisions

Range	Total No. of VSS	NTFP-Related Activities	Other Activity
North			
Peria	5	Most of the groups collecting honey, mushroom, medical plants and others (Dammer) to mainly use at home. Two groups: Selling medical plants, Dammer to SC/ST or FDA.	One group: organic farming,
Mananthavady	4	Most of the groups collecting honey, mushroom, medical plants and other NTFPs mainly to use them at home. One group: Selling medical plants to private middleman	Two group: Ecotourism,
Begur	8	Most of the groups collecting honey, mushroom, medical plants and other NTFPs (Dammer, fodder) and selling them to FDA and SC/ST except mushrooms consumed at home	One group: Ecotourism, Another group: Drinking water project
South			
Chedlath	8	All groups: collecting honey, mushroom, medical plants and others (Kalpasam ¹⁾) Four groups: Selling honey and medical plants to S/CST cooperative One group: Selling mushroom to SC/ST cooperative, Two group: Selling Kalpasam to SC/ST cooperative	One group: Ecotourism One group: Managing tailoring class
Kalpetta	5	All groups: collecting honey, mushroom, medical plants and others (Kalpasam, Fodder) except one group not collecting honey One group: Selling honey, medical plants and Kalpasam to SC/ST cooperative	Two groups: Managing tailoring class One group: Managing computer learning centre and reading room One group: Building group office
Meppady	5	Four groups: collecting honey, mushroom, medical plants and others (Kalpasam, Fodder) One group: not collecting any NTFPs Two groups: Selling honey, mushroom and medical plants SC/ST cooperative	Three groups: Ecotourism

Source: JICA Survey Team (2014) based on the field survey

Most of the groups are engaging in collecting NTFPs produces for the domestic uses. Among them a few groups are selling the produces to Tribal Service Cooperative Societies. The NTFPs are collected

and sold individual basis including contacting the cooperative, which in principle are not organized as collective actions of VSSs.

(2) Activities Undertaken by EDCs

EDCs do not engage in the forestry-related activities such as logging, planting and tending of the plantation because they are prohibited by The Environmental Protection Act, 1986 to be conducted in the wildlife sanctuary area. However the collection of NTFPs is allowed by the Act, thus the members of EDCs are engaging in their collection and selling to the relevant organizations. The following table gives the overall view about the activities done by EDCs.

NTFP-related Activities by EDCs in Wildlife Division

Range	Total No. of VSS	Number of Families	Collection of Woody Forest Produces	NTFP-Related Activities
Tholpetty, Muthanga, Kurichiat Sulthan Bathery	14	SC: 37, ST: 1,000, Others: 172	Firewood: 14	All groups: collecting honey, mushroom, medical plants and fodders and selling honey to FDA and medical plants and <i>Kalpasan</i> to SC/ST. Mushroom and fodders for domestic uses.

Source: JICA Survey Team (2014)

Different from the structures of VSSs, the bulk of their members of EDCs are of ST people thus SC and “other” people such as those in the general caste are only tiny part of the group. Collection of fire wood are done by all groups, which is the same situations at in VSSs. Likewise most of the groups are engaging in the collection and selling of NTFP produces to FDA or SC/ST Cooperative Society.

9.7 Eco Tourism Development

9.7.1 Current Activities by VSS/EDC

A survey of the VSS/EDC conducted by the JICA Survey Team revealed their current practices to work for the eco tourism. The following table summarizes the findings in the survey.

Tourism Site and Infrastructure

Division	Range	VSS/EDC	Activities
North	Mananthavady	Chali VSS	Some of the VSS members are working as a guide of tourism.
		Perincherymala VSS	Some of the VSS members are working as a guide of tourism.
	Begur	Papanasini VSS	20 VSS guides are working for the tourism.
South	Chedlath	Pakkam Kuruva VSS	37 VSS guides are working for the tourism.
	Kalpetta	Varambatta	10 VSS guides are working for the tourism.
	Mepaddy	Meenmutty VSS	Eco tourism centre. 30 VSS guides are working for the tourism.
		Soochippara VSS	Eco tourism centre. 33 VSS guides are working for the tourism.
Wildlife	Tholpetty	Tholpetty EDC	EDC members are engaging in the tourism.
	Muthanga	Muthanga EDC	EDC members are engaging in the tourism.

Source: JICA Survey Team, June 2014.

Chapter 10 Community Infrastructure

10.1 On-going Programmes/Projects/Schemes

During the Survey period, it was found that many programs/ schemes/ projects for the community infrastructure development are now on-going (referred to **Annexes 4 and 7 in Volume III**). Among others, major ones are listed below:

Major Programme/Project/Schemes

Programme/Project/Scheme	Target Infrastructure
E. Manakkil Shankaran (EMS)*	Housing
Indira Awaz Yogana (IAY)	Housing
Jalanidhi	Drinking water facilities
Kerala Water Authority (KWA) Scheme	Drinking water facilities
Rajiv Gandhi Drinking Water Scheme	Drinking water facilities
World Bank program (KLGSDY)	Government building, road, etc.
National Rural Health Mission (NRHM)	Health centre
Sarva Shiksha Abhyas (SSA)	School
Nirmal Bharat Abhiyan (NBA), former TSC	Sanitation
Rajiv Gandhi G. Vidyut Yojana (RGGVY)	Electricity
Pradhan Mantri Gram Sadak Yojana (PMGSY)	Rural road (Wayanad not included)
Kerala Local Government Service Delivery Project (KLGSDP); World Bank	Rural road
District Panchayat own fund	Mainly for housing
Grama Panchayat own fund	Mainly for housing and sanitation

Source: JICA Survey Team

Note: *: As for EMS, the last budget allocation was allocated for 2011 and the remaining budget as of March 2012 is now being used for the remaining housing works.

According to the 12th five-Year Plan (2012 - 17) of Wayanad, there were 77 community infrastructure development related projects in 2012-13, for which Rs.94.4million were outlaid in total. The following table is a summary of the 77 projects and the costs by sector:

Projects (2012-13) in 12th Five-Year Plan (2012 - 17)

Sector	Nos. of Projects	Projects	Amount (Rs.)	Ratio (%)
Production	8	Check dam, Lift irrigation	7,776,575	8
Service	27	School, Drinking water, Hospital, Training centre	28,426,185	30
Public Works	42	Road tarring, Road construction	58,237,225	62
Total	77	-	94,439,985	100

Source: 12th 5Year Plan of Wayanad District

More details of the 77 projects are shown in **Annex 7.1 in Volume III**.

Comparing to the number and costs of the projects in 2012 -13, district annual plan for 2013 – 14 earmarked Rs.857.3million for 1,602 infrastructure projects as shown below:

Projects in Annual Plan (2013 - 14)

Sector	Nos. of Projects	Major Projects	Amount (Rs.)	Ratio (%)
Central fund	132	Sanitation, House waste management, etc.	92,644,141	11
Drinking water	520	Well (dug, bore) (repair, new), Pipe, etc.	87,007,042	10
Education	296	Building (toilet, kitchen) (repair, new), etc.	102,409,340	12
Health	243	Building (toilet, electricity) (repair), Furniture	44,075,657	5

Sector	Nos. of Projects	Major Projects	Amount (Rs.)	Ratio (%)
Housing & Electricity	295	Housing (IAY, etc., new, repair), Wiring, etc.	447,445,044	52
Sanitation	116	Toilet (individual, public), Latrine, etc.	83,736,297	10
Total	1,602	-	857,317,521	100

Source: Annual Plan of Wayanad District

It is noted that under the budget head of Housing & Electricity listed were 295 projects with fund requirement of Rs.447.4million, of which the electricity (electrification) projects are eight in total claiming budget of Rs.2,6 million (0.6%).

More details of the projects in the annual plan (2013 - 14) are shown in **Annex 7.2 in Volume III**.

10.2 State of Infrastructure Development

10.2.1 Housing

The following major three programs for the housing works are on-going:

- E. Manakkil Shankaran (EMS)
- Indira Awas Yojana (IAY)
- Grama Panchayat own fund

(1) EMS Housing Scheme: State government financing scheme

In 2009, 12,462 houses were sanctioned to be financed by this scheme and completed with substantial outstanding works in 2011. Spill over work is still in progress. The completion rate was 47.75% as of 31st March 2014. It is a financial assistance for the BPL families who clear the selection criteria: i) no any government support in the past 10 years and to be used for a replacement of dilapidated house, or land and house to landless; and ii) such exclusion criteria as employment status, house size, possession of 4 wheel vehicle and whether a family member works in overseas or not. An amount of Rs.75,000, Rs.100,000 and Rs.125,000 are subsidised for general category, for SC, and for STs and others, respectively. More details are given **Annex 4.4.1 in Volume III**.

(2) Indira Awas Yojana (IAY): Central government financing scheme

Under the IAY, subsidies are given to the BPL families for house construction. The amount of subsidies is Rs. 70,000 – 75,000. The rest of the cost needs to be met by the beneficiary families themselves. The funds are released stage wise to the bank account of the woman in the household after receiving an inspection by the Village Extension Officer.

Beneficiary Selection Criteria of IAY

Selection Criteria of Beneficiaries
Beneficiary should be in BPL List. Prioritization of beneficiaries are: <ul style="list-style-type: none"> • Freed bonded labourers • SC/ST households • Families /Widows of personnel from defence services/Paramilitary forces, killed in action • Non SC/ST BPL households • Physically and mentally challenged persons • Ex servicemen and retired members of the paramilitary forces • Displaced persons on account of developmental projects, nomadic/semi nomadic, and de notified tribal's, families with physically/mentally challenged members The selection of the beneficiaries will be subject to the condition that the households of all the above categories except No 3 are in the BPL list.

Source: Poverty Alleviation Unit, Wayanad District (2014)

The total number of houses sanctioned as of 1st April 2013 was 4,808 houses. Of which, 2,744 houses were sanctioned for ST, followed by 920 houses for General category, 747 houses for minority category, and 397 houses for SCs.

As of the end of March 2014, the 23% of the houses were completed. 28% of the houses completed up to the foundation level, 22% completed up to wall and the rest was completed up to the roof (**Annex 4.4.1 in Volume III**).

10.2.2 Household Amenities

(1) Household Electricity Connection

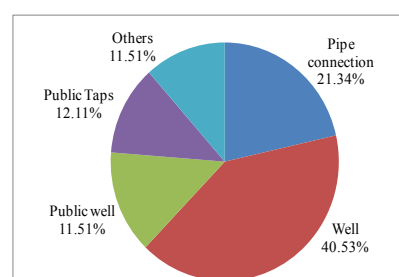
Household electric connection is available to 87.36% of the total households in Wayanad. In nine Panchayats out of the 25 Panchayats, more than 90% households have the household connection. The least number of houses having household electric connection is in Noolphzha (3,429 households or 52.72%) (**Annex 3 in Volume III**).

(2) Water Sources

As domestic water sources, 41% of the households depend on well. Household pipe connection is available to 21% of the households. 12% of the households rely on the other water sources including water spring, water pond emerged in the excavation sites, etc., which are not suitable for domestic water. More details are given in **Annex 3 in Volume III**.

(3) Toilets

In Wayanad, 91.48% of the households reportedly have toilet at household premises. In Mulltil Panchayat, all the households have toilet at home. The least number of households having toilets at home is Thirunelli, where still nearly 30% of the households do not have toilets at home.



Water sources for Domestic Water in Wayanad

Source: ICDS Annual Survey (2012-13)

10.2.3 Health Care Facilities

(1) Services and Facilities under District Medical Office

Available medical facilities in Wayanad are as summarised below. Primary Healthcare Centre (PHC) and Community Health Centres (CHC) provide curative treatments. In addition, field activities are conducted by Reproductive Child Health, Public Health and Tribal Mobile Units.

Number of Medical Institutions in Wayanad

Unit: Institution

Type of Medical Institution	No
District Hospital	1
Taluk Hospital	2
Community Health Centre	9
Primary Health Centre (24x7) ¹	8
Primary Health Centre	14
Sub Centre	204
Private Clinics /Hospitals	76

Source: District Medical Office, 2014

District Medical Office also conducts medical camps for the SC and ST communities.

¹ Primary Health Centre opens 24 hours a day for 7 days a week.

(2) Anganwadi

As described in **Section 6.4**, 882 *Anganwadi* centres and 42 mini *Anganwadi* centres have been established in Wayanad. Location of the centres is shown in **Map 8 of Attachment III 3.9 in Volume III**.

10.2.4 Education

In Wayanad, education facilities are established by government and private entities. The total number of Lower Primary Schools (1st to 4th standard) is 144. Upper Primary (5th to 7th standard) and High Schools (8th to 10th standard) are 71 and 78, respectively. The number of Higher Secondary Schools (11th to 12th standard) is 43, which are much less in comparison to the schools of the lower level. Special Schools are in Sulthan Bathery and Muttill for the differently abled children. Location of the schools is shown in **Map 4 of Attachment III 3.9 in Volume III**.

10.3 Request and Needs of Community Infrastructure**10.3.1 General**

In order to clarify the present conditions of the community infrastructures and needs of infrastructure development, the Survey Team has conducted inquiry and exchanged view with AHADS office, the District office and 25 Grama Panchayat offices, and made site investigations. The following sections summarise request of the Grama Panchayat and assessment of the Survey Team against the request.

10.3.2 Housing

The intentions and considerations of the 25 Grama Panchayat Offices on the housing works and the present conditions of the sample sites in the fields are summarized as follows:

Request by Grama Panchayat Office and Needs at Sample Site on Housing Works

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	High	High	14	Pozhuthana	High	High
2	Vellamunda	High	High	15	Thariyode	High	High
3	Thirunelly	No Info.	Some	16	Meppady	Some	-
4	Thondernadu	High	High	17	Muppainadu	High	High
5	Edavaka	High	High	18	Kottathara	High	Some
6	Thavinal	Some	Some	19	Muttill	High	-
7	Sultan Bathery	Some	-	20	Padinjarathara	High	Some
8	Noolpuzha	High	Some	21	Panamaram	High	High
9	Nenmeni	High	Some	22	Kaniyambetta	High	Some
10	Ambalavayal	High	Some	23	Poothady	High	High
11	Meenangady	No Info.	Some	24	Pulpally	High	High
12	Vengapally	High	Some	25	Mullankolly	High	High
13	Vythiri	High	Some	-	-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note: “-” shows no site investigation because of no guidance

As shown in the table above, the majority of the Grama Panchayats recognize the high needs of the housing works. It is just on the same line with the housing budget (about 50%) allocated in the annual plan (2013 -14). More details are given in **Annex 7.3 in Volume III**.

10.3.3 Access Roads & Bridges

The road network under the management of Public Works Department (PWD roads) consists of: i) the national highway, ii) the state highway and iii) the district road. In Wayanad, PWD roads have been well developed so far and have no urgent needs for construction. However, it does not cover the

Grama Panchayat road that is used by local people as the access road to their hamlet/colony concerned.

The access roads and bridges are being used daily by the local people to go to the market, the school, the health centre, etc. Those are therefore indispensable for their quality daily life.

Those roads and bridges are planned, designed and constructed as project work under the management of Grama Panchayat Offices. The regular maintenance and repair are responsibility of the Grama Panchayat Offices.

Most of the access roads and footpath constructed are 2.0-3.0 m and 0.3-1.0 m in effective width, respectively. Since most of the colonies/hamlets have the access road / footpath, new construction of the access roads is not required.

These existing roads were mostly paved in the past with the gravel or stones and asphalt or concrete pavement as the rare cases. However, due to lack of proper maintenance, many of these pavements have been heavily deteriorated.

The interest and considerations of the 25 Grama Panchayat Offices on the access road & bridge improvement works and the present conditions of the sites in the fields are summarized in the following Table. As shown in the above table, a half of the Grama Panchayat Offices recognize the high needs of the access bridge works. More details are shown in **Attachment 7.4.2 and 7.4.3 in Volume III.**

Request by Grama Panchayat Office and Needs at Sample Site on Access Road Works

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	Some	High	14	Pozhuthana	High	-
2	Vellamunda	Some	High	15	Thariyode	High	High
3	Thirunelly	No Info.	High	16	Meppady	High	-
4	Thondernadu	Some	High	17	Muppainadu	High	High
5	Edavaka	High	Some	18	Kottathara	High	High
6	Thavinhal	High	Some	19	Muttil	High	High
7	Sultan Bathery	High	-	20	Padinjarathara	High	High
8	Noolpuzha	No Info.	High	21	Panamaram	High	-
9	Nenmeni	High	High	22	Kaniyambetta	High	High
10	Ambalavayal	High	Some	23	Poothady	High	High
11	Meenangady	No Info.	-	24	Pulpally	No Info.	-
12	Vengapally	High	Some	25	Mullankolly	No Info.	High
13	Vythiri	High	-	-	-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note: “-” shows no site investigation because of no guidance

Request by Grama Panchayat Office and Needs at Sample Site on Access Bridge Works

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	No Info.	High	14	Pozhuthana	No	-
2	Vellamunda	High	-	15	Thariyode	High	-
3	Thirunelly	No Info.	High	16	Meppady	No	-
4	Thondernadu	High	-	17	Muppainadu	High	-
5	Edavaka	High	-	18	Kottathara	High	High
6	Thavinhal	High	-	19	Muttil	High	High
7	Sultan Bathery	Some	-	20	Padinjarathara	No Info.	-
8	Noolpuzha	No Info.	-	21	Panamaram	High	High
9	Nenmeni	High	Some	22	Kaniyambetta	High	-
10	Ambalavayal	High	High	23	Poothady	No Info.	-
11	Meenangady	No Info.	-	24	Pulpally	No Info.	-
12	Vengapally	High	High	25	Mullankolly	No Info.	-
13	Vythiri	No Info.	-	-	-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note: “-” shows no site investigation because of no guidance

10.3.4 Drinking Water Facilities

Most common domestic water supply facility in rural area in Wayanad is the open dug well with 1.5 to 3.0 m in diameter and 5 to 10m in depth located in or adjacent to the concerned hamlet/colony. Lifting water in the well is generally done manually using a bucket.

In some hamlets/colonies, rain water harvesting water tanks (3.0 m in diameter) are attached to houses.

As for the water quality, results of water quality tests conducted in various places in Vellamunda Grama Panchayat were collected at the Vellamunda PHC. The test results are as shown in Volume III **Attachment III 7.4.18 in Volume III**. Places of the water quality tests conducted were at: i) the colonies, ii) the schools, iii) the government offices including the Vellamunda PHC and Sub-centres, and iv) the other places such as the public wells. The results shows that the bacteria contents in the water varies in a range from 200 to 2000 MPN/100 ml, while the allowable value is 10 MPN/100ml.

The field investigation on the dug well by the Survey Team affirmed the data mentioned above that: i) water quantity is sufficient in general but it is heavily contaminated with much bacteria; and ii) no chlorination is being done for the well or overhead water tank to store the water pumped from the well.

The intentions and considerations of the 25 Grama Panchayat Offices on the drinking water facilities improvement works and the present conditions of the sites in the fields are summarized as follows:

Request by Grama Panchayat Office and Needs at Sample Site on Drinking Water Facilities

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	Low	High	14	Pozhuthana	Some	High
2	Vellamunda	High	High	15	Thariyode	Low	High
3	Thirunelly	No Info.	High	16	Meppady	Some	High
4	Thondernadu	Low	-	17	Muppainadu	Some	High
5	Edavaka	Low	High	18	Kottathara	Some	High
6	Thavinhal	Low	High	19	Muttill	Some	High
7	Sultan Bathery	Some	-	20	Padinjarathara	Some	High
8	Noolpuzha	High	High	21	Panamaram	Some	High
9	Nenmeni	Low	High	22	Kaniyambetta	Some	High
10	Ambalavayal	Low	High	23	Poothady	Some	High
11	Meenangady	Low	High	24	Pulpally	Some	High
12	Vengapally	Low	High	25	Mullankolly	Low	High
13	Vythiri	High	High	-	-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note: “-” shows no site investigation because of no guidance

As shown in the above table, a few Grama Panchayat Offices recognize the high needs of the drinking water facilities improvement works. More details are shown in **Attachment III 7.4.4 in Volume III**.

10.3.5 Electricity Facilities

Most of hamlets/colonies that the Survey Team visited have the electricity distribution lines, which were constructed by the Kerala Electricity Board Ltd.

In the hamlets/colonies, houses were mixtures of ones with electricity supply and without the incoming lines form the distribution lines despite the fact that the line is so close to the houses as 5 - 50m away. The houses without the electricity are roughly estimated to be some 50% of the total houses in the hamlets/colonies on an average, although the ratio varies largely from place to place. It seems to be attributed mainly to the less capacity to pay for installation cost and the electricity charge as well.

As for the solar lantern and solar street light, and the bio-gas unit, no immediate needs were identified during the Survey.

The intentions and considerations of the 25 Grama Panchayat Offices on the electricity facilities improvement works and the present conditions of the sites in the fields are summarized as follows:

Request by Grama Panchayat Office and Needs Sample Site on Electricity Facilities

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	Low	Some	14	Pozhuthana	No	No
2	Vellamunda	Some	Some	15	Thariyode	High	Some
3	Thirunelly	No Info.	-	16	Meppady	No	-
4	Thondernadu	Low	-	17	Muppainadu	No	No
5	Edavaka	Some	Some	18	Kottathara	No	No
6	Thavinhal	High	Some	19	Muttil	Some	-
7	Sultan Bathery	No	-	20	Padinjarathara	No	-
8	Noolpuzha	No	High	21	Panamaram	Some	Some
9	Nenmeni	No	No	22	Kaniyambetta	Some	Some
10	Ambalavayal	Low	No	23	Poothady	No	Some
11	Meenangady	No Info.	-	24	Pulpally	No	No
12	Vengapally	No	No / High	25	Mullankolly	Some	Some
13	Vythiri	No	No	-	-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note: “-” shows no site investigation because of no guidance

As shown in the above table, a few Grama Panchayat Offices recognize the high needs of the electricity facilities improvement works. Real issue for increasing the electricity connection seems to be the less capacity to pay for both the initial cost and the recurrent cost for electricity charge. More details are shown in **Attachment III 7.4.5 in Volume III**.

10.3.6 Sanitation Facilities

As stated in the previous **Section 10.2.2**, toilet at household premises reportedly reached 91.48%. It was found that the needs of the public toilets are not so high in hamlets/colonies, though there are little public toilets in the hamlets/colonies in general.

The intentions and considerations of the 25 Grama Panchayat Offices on the sanitation facilities improvement works and the present conditions of the sites in the fields are summarized as follows. More details are shown in **Attachment III 7.4.6 in Volume III**.

Request by Grama Panchayat Office and Needs at Sample Site on Sanitation Facilities

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	No	Some	14	Pozhuthana	No	No
2	Vellamunda	No	Some	15	Thariyode	No	Some
3	Thirunelly	No Info.	-	16	Meppady	No	-
4	Thondernadu	Some	-	17	Muppainadu	Some	No
5	Edavaka	No	Some	18	Kottathara	Some	No
6	Thavinhal	Some	Some	19	Muttil	No	-
7	Sultan Bathery	No	-	20	Padinjarathara	Some	-
8	Noolpuzha	No	High	21	Panamaram	Some	Some
9	Nenmeni	No	No	22	Kaniyambetta	Some	Some
10	Ambalavayal	No	No	23	Poothady	No Info.	Some
11	Meenangady	No	-	24	Pulpally	No Info.	No
12	Vengapally	No	No / High	25	Mullankolly	No Info.	Some
13	Vythiri	No	No	-	-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note: “-” shows no site investigation because of no guidance

10.3.7 Community Centres

It was learned that there was no community centre in most of hamlets/colonies except rare cases in Wayanad. The community centre seems to be useful for multiple purposes including the community assembly.

The intentions and consideration of the 25 Grama Panchayat Offices on the community centres improvement works and the present conditions of the sites in the fields are summarized as follows:

Request by Grama Panchayat Office and Needs at Sample Site on Community Centres

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	No	High	14	Pozhuthana	No	High
2	Vellamunda	Some	High	15	Thariyode	No	High
3	Thirunelly	No Info.	High	16	Meppady	No	-
4	Thondernadu	Some	High	17	Muppainadu	No	High
5	Edavaka	No	High	18	Kottathara	Some	No
6	Thavinhal	No	No/ High	19	Muttill	No	-
7	Sultan Bathery	No	-	20	Padinjarathara	No	-
8	Noolpuzha	No	High	21	Panamaram	No	High
9	Nenmeni	No	High	22	Kaniyambetta	No	High
10	Ambalavayal	No	High	23	Poothady	No	High
11	Meenangady	No Info.	-	24	Pulpally	No	High
12	Vengapally	No	High	25	Mullankolly	No	High
13	Vythiri	No	No		-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note: “-” shows no site investigation because of no guidance, “Well” shows there is the centre, “Poor” not.

As shown in the above table, most of Grama Panchayat Offices did not recognize the needs of the community centre. More details are shown in **Attachment III 7.4.7 in Volume III**.

10.3.8 Health Centres

At present, the facilities and equipment in the Community Health Centres (CHCs), the Primary Health Centres (PHCs) and Sub-centres are not fully met with the Indian public health standards (**Attachment III 7.4.8 in Volume III**) or have aged already for use.

Through interviews to most of CHCs and PHCs in Wayanad, it was found that, on an average about 60% of the basic facilities and equipment as listed below are not provided or not functioning well:

- Blood pressure apparatus
- Hemoglobin metre
- Glucose metre (Glucometre)
- Sterilization kit
- Oxygen inhalator
- X-ray facilities & equipment for the lungs
- X-ray facilities & equipment for the stomach
- Electrocardiograph facilities & equipment (ECG)

The intentions and considerations of the 25 Grama Panchayat Offices on the health centres improvement works and the present conditions of the sites in the fields are summarized as follows:

Request by Grama Panchayat Office and Needs at Sample Site on Health Centres

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	No	-	14	Pozhuthana	No	-
2	Vellamunda	Some	No	15	Thariyode	Some	Some
3	Thirunelly	No Info.	-	16	Meppady	Some	-
4	Thondernadu	Some	-	17	Muppainadu	Some	-
5	Edavaka	No	Some	18	Kottathara	Some	-
6	Thavinhal	No	No	19	Muttill	Some	-
7	Sultan Bathery	No	-	20	Padinjarathara	Some	Some
8	Noolpuzha	Low	-	21	Panamaram	Some	-
9	Nenmeni	Low	-	22	Kaniyambetta	Some	-
10	Ambalavayal	Some	-	23	Poothady	Some	-
11	Meenangady	No Info.	-	24	Pulpally	Low	-
12	Vengapally	No	-	25	Mullankolly	Some	-
13	Vythiri	No	-		-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note.: “-” shows no site investigation because of no guidance

As shown in the above table, a half of Grama Panchayat Offices recognized the needs of the improvement of the health centres. More details are shown in **Attachment III 7.4.13 in Volume III**.

10.3.9 Schools

As for the government lower primary schools (LPs) and upper primary schools (UPs), the toilets are not properly provided. It is closely related to the sanitation development. It is considered that the present condition of the toilets in the schools is to be improved to let the young generation learn how to properly use and maintain the sanitary conditions of the toilets.

The intentions and considerations of the 25 Grama Panchayat Offices on the schools improvement works and the present conditions of the sites in the fields are summarized as follows:

Request by Grama Panchayat Office and Needs at Sample Site on Schools

No.	Grama Panchayat	Request	Needs	No.	Grama Panchayat	Request	Needs
1	Mananthavady	No	-	14	Pozhuthana	No	-
2	Vellamunda	Some	-	15	Thariyode	Some	-
3	Thirunelly	No Info.	-	16	Meppady	Some	-
4	Thondernadu	Some	Some	17	Muppainadu	Some	Some
5	Edavaka	No	-	18	Kottathara	Some	-
6	Thavinhal	No	-	19	Muttill	Some	-
7	Sultan Bathery	No	-	20	Padinjarathara	No	-
8	Noolpuzha	No	-	21	Panamaram	Some	-
9	Nenmeni	Some	-	22	Kaniyambetta	Some	-
10	Ambalavayal	Some	-	23	Poothady	Some	Some
11	Meenangady	No Info.	-	24	Pulpally	No	-
12	Vengapally	No	-	25	Mullankolly	No	-
13	Vythiri	No	-	-	-	-	-

Source: Interviews to Grama Panchayat Offices by the Survey Team in May 2014

Note.: "-" shows no site investigation because of no guidance

As shown in the above table, a half of Grama Panchayat Offices recognized the needs of the improvement of the schools. More details are shown in **Attachment III 7.4.9 in Volume III**.

10.3.10 Other Community Facilities**(1) Hostels for BPL Education**

All the 25 Grama Panchayat Offices did not recognize the urgent needs of the hostels for BPL education.

(2) Gurukulam (Learning Centre in BPL Hamlet / Centre)

Thondernad Grama Panchayat Office recognized the needs of the Gurukulam in hamlets/colonies in the Panchayat.

In Perincherimala Colony in Ward 10, there exists a Gurukulam (a learning centre in a hamlet/colony) so called one teacher school. The building the Gurukulam consists of: i) a class room (5m x 6m), ii) a storeroom (2m x 4m), and iii) an outside toilet (1.5m x 3m). Facilities and equipment available in the Gurukulam are: i) one set of teacher's desk & chair, ii) 15 sets of pupils' desks & chairs, iii) one blackboard, iv) one notice board, v) two units of large cabinets, vi) one book rack, etc. The water and the electricity are being provided.

As seen above, this Gurukulam is well equipped with infrastructure and facilities adequately. The key of the effectiveness of the infrastructure in this case is the availability of the staffing (one person), who should do both the management and the teaching.

The other 24 Grama Panchayat Offices did not recognize the urgent needs of the Gurukulam in the hamlets /colonies under respective jurisdictions.

(3) Mobile Centres for De-addiction and Counselling

All 25 Grama Panchayat Offices did not recognize the urgent needs of the mobile centres for de-addiction and counselling.

Chapter 11 Issues and Problems

11.1 Beneficiaries

(1) Definition of BPL

DPR proposes BPL households to be the beneficiaries. The Survey Team has made an attempt to understand how BPL households are defined in the context of Wayanad. As reviewed in the preceding chapter, the definition of BPL is not static but can be revised by the government when needed. In the case of Kerala, GoI and GoK criteria are separately adopted to identify beneficiaries for the centrally and state funded schemes, respectively.

At the time of the Survey, the list prepared based on 2009 BPL Survey, was valid and an updated draft list of BPL households based on the 2011 Socio Economic and Caste Census was in the process of finalisation. The revised list is based on the GoI BPL criteria with minor changes in the criteria that were adopted in the 2009 BPL Survey. On the other hand, other interventions that are targeting poor households have their own beneficiary selection criteria. In the case of MGNREGA or Kudumbasree, BPL is not a criterion for selecting the beneficiaries but the criteria were designed to identify the households in need of the services of such interventions. The above suggests a reflection of the multi faceted nature of poverty and that the definition of BPL is context specific.

(2) Limited Livelihood Options

Unpractical Option- Migration

The results of the socio-economic survey and RRA exercises revealed that the vulnerability of the BPL households in Wayanad derives from the fluctuation of income as the livelihoods of the majority depend on the wages earned on a daily basis. Such fluctuation of income varies according to one's earning capacity. Although migration has been commonly practiced as one of the common mitigation measures in Kerala as a whole, it has not been the case among the BPL households across the social groups though profitable. The results of socio economic survey data indicated that only 159 members migrated out of the 1001 surveyed BPL households and common among men of OBC and General caste. In other words, migration for livelihood is not for everyone.

Limited Access to Productive Assets

The productive assets held by the BPL households are limited. Although 71.03% of the surveyed households owned agriculture land, the area was small (0.037 ha for MHH and 0.044ha for FHH), which area is not enough to undertake land based productive activities. The marginal land holding size also is a constraint for the BPL households to access various agriculture schemes and programmes as the land holding size is one of the beneficiary selection criteria¹.

Poultry and goats are common but owned by less than 30% of the MHHs and FHHs surveyed. Two birds and two goats are the most frequently recorded number of livestock. This is only a micro scale and is less likely to provide a substantial sum of income for the household.

Low Profitability in Alternative Livelihood Activities - IGA

In Wayanad, Kudumbasree, banks and cooperative societies are promoting loan to small groups that are intending to start a small scale business. Under Kudumbasree, activity groups are formed for various income generation activities with the hand holding support. However, the results of the field survey suggested that even the successful one may not be functioning as a group activity and not so

¹ To access a vegetable production scheme, the applicant is required to have 0.01 ha or larger. Vegetable and Fruit Promotion Council of Kerala provides SHG based support. Each SHG member is required to have the minimum plot size of 0.4 ha.

profitable. The Survey Team identified several issues associated with the income generation activities undertaken by the women's groups as in **Section 11.5**.

(3) The Vulnerable and Entitlement

Although a number of government schemes and programmes for the betterment of BPL households have been/ are being implemented, the benefits have not been enjoyed by all the households equally. The socio economic survey results showed that 102 households had APL ration card or APL card with a stamp to indicate their entitlement as BPL, and 22 had no documentation to claim their entitlement as BPL. Because of their lack of proper documentation, they were not able to fully receive the entitlements as BPL.

In addition, there are variations among the BPL households in terms of vulnerability. Among the BPL households interviewed during the Survey identified were the characteristics of households in their locality who were facing much more challenges. They defined such vulnerable households as "those who cannot work and earn". A few such vulnerable households are found in each locality and comprised of "the female heads of households and even men with illness or affected by alcohol" who have limited access to employment. These households are recognised as "the vulnerable" among the BPL households and are unable to sufficiently take advantage of on-going government poverty alleviation interventions.

Unwedded mothers are also generally referred as the vulnerable in Wayanad. The unwedded mother who is cohabiting with their family and is not a head of household, is unable to access to support available for BPL households, because beneficiaries are selected on the basis of socio-economic status of head of household. In addition, programmes and schemes of government targeting unwedded mothers are few.

11.2 Implementing Agency

11.2.1 Issues in Capacity of AHADS-CCPRM as implementing Agency

Issues in capacities of AHADS-CCPRM as implementing agency are identified as follows. To be brief, re-establishment of administrative system such as asset management, asset registration, etc., and accounting and financial system and reviving its organizational function through deployment of qualified staffs are required as a precondition of the project.

(1) Staff for project operation in AHADS-CCPRM except Executive Director and Deputy Director

After AHADS has been re-organized into AHADS-CCPRM, the meeting of the Governing Body has not been convened and its staffing plan has not been approved. There is no clear schedule for the future Governing Body. Though Executive Director and Deputy Director plan to employ the staff members who have worked for AHADS in AWCECOP, it is not definite if they would be willing or available to work with AHADS-CCPRM or not. It is not assured that the experienced staff of AWCECOP would work in the Project although the DPR has been designed on this basis.

Issues and Problems – Organisational Capacity of AHADS-CCPRM

1. No experienced technical and administrative staff other than one Deputy Director
2. No clearly defined staff deployment plan for the project
3. Insufficient administrative and transparent accounting system in operation
4. Lack of capacity in working in partnership with other government offices and agencies
5. Lack of understanding in the needs and issues in Wayanad

(2) Issues in Asset Management

As mentioned in **Annex 8 in Volume III**, AHADS-CCPRM has immovable assets. Most of the assets need to be repaired or renewed.

AHADS-CCPRM has no records on the activity reports on the recent projects. In short, administrative system for the asset management and reporting has not been done properly since its re-organization.

(3) Issues in Accounting System

As per the financial system of AHADS/AHADS-CCPRM, the last audit by a Chartered Accountant was on the 31st March 2011 and no audit in subsequent years though yearly audit is mandatory under the Societies Registration Act 1860. Besides the audit status, the latest physical assets verification was done in 2003. Based on the cash book shared by AHADS-CCPRM, the utilisation of project fund for recently implemented by AHADS-CCPRM has not been recorded as it should.

(4) Issues in Financial System and Establishment of Relationships for Sustainable Activities

As reviewed in **Annex 4 in Volume III**, AHADS has given loan amount of Rs. 26.1 million out of the corpus fund to SHGs that were established by AHADS. Although large amount of money was loaned to the SHGs, the management of the corpus fund could not be successfully transferred to Kudumbasree and thus the repayment was not done by SHGs and thus by CDSs. During the Survey, 23% of the loan amount has been repaid. According to CDSs, none of the SHGs took loan continues with income generation activities. This suggests that AHADS was unable to establish a relationship with the key stakeholders, which was critical in sustaining the corpus fund and the income generation activities of the SHGs². The coordination capacity of the organization shall be strengthened to build relationships with the stakeholders to ensure the sustainability of post project.

(5) Understanding towards the Needs and Issues in Wayanad

In the DPR submitted by AHADS, replication of AWCECOP model was proposed due to a reason that Wayanad has a similarity with AHADS in terms of a high tribal population. In reality, however, Wayanad is substantially different from Attappady in its natural and socio economic environment as reviewed in the preceding chapters. Such different aspects of Wayanad have not been fully reflected in DPR which indicates the partial understanding of the needs and issues in the project area by AHADS.

11.2.2 Issues in Project Operation

As for the operational point of view, the following issues on AHADS-CCPRM were identified.

(1) Application of Lessons Learned from Attappady to the Project Design

After the completion of AWCECOP, AHADS could not succeed to sustain its activities, the People's Institutions created by AHADS, and AHADS itself, even though High Level Task Force (HLTF) was formed to discuss about the post project. In the completion report of AWCECOP, the post project prospect was described as follows: i) inventory of assets; ii) handing over of the assets; iii) contract with people's institutions (PIs) for final payment; iv) building sustainability of people's institutions; and v) building sustainability of AHADS. As for the (iv) building sustainability of people's institutions, the followings were generally proposed: i) enhancement of the capacity of PIs; ii) fund secure of PIs; iii) linkage building with stable funding sources. Although the proposal for post project had been suggested to AHADS, AHADS received G.O. (No.M.S-74/2011/LSGD) in 2011 to dismiss 160 employees. In addition, AHADS suspended payment around Rs. 2 million for wages to its 36 staff members. Gradually AHADS has lost its capacity of sustaining itself, and could not provide sufficient support for the PIs.

The lessons drawn from the above is that the post project sustainability can be secured by the implementing agency itself to become self sustaining both managerially and financially. Further, the

² GoK is aware of the importance of the convergence. In 2013, GO (Rt) No. 371/2013/Plg dated 26th Sep 2013 was issued to constitute a High Level Committee (chaired by the Minister of Welfare of Scheduled Tribes) for monitoring and coordination of all development and welfare interventions implemented in Attappady (Economic Review 2013, Kerala State Planning Board. P 166).

government also is required to play an important role in establishing synergy between the implementing agency with other stakeholders and rendering financial support.

(2) Office Location in Attappady

AHADS-CCPRM has 4.45 ha of office campus in Agali, Attappady Block in Palakkad District, which is located about 190 km away from Kalpetta, the district headquarter of Wayanad. This office location would not allow the effective and efficient operation of the Project in the Wayanad District. As proposed in DPR, it is necessary for AHADS-CCPRM to establish a full scale project management unit in the Wayanad District.

11.3 Natural Environment Improvement

11.3.1 Rehabilitation of Degraded Area

Small scale open areas which are less than 100 ha are continuously rehabilitated by the local communities using the budget of National Afforestation Program (NAP) offered by GoI. Thus they will not be included into the target of the Project.

Large scale open areas which are more than 100 ha were identified in six locations in the southern part of the district. However, their ground covers are considered to be climax herbal vegetation formed on shallow soils with scattered rocky patches. Therefore it is considered that rehabilitation of such area by planting trees is not technically or financially relevant.

11.3.2 Eco Restoration

(1) Expansion of Exotic Weeds and Degradation of Natural Forest

In most part of the Wildlife Sanctuary the exotic noxious weeds and shrubs such as *Chlomonaera*, *Lantana*, *Senna*, etc. have been expanding rapidly, in particular in and around the open area and sparse forest. The range officers understand that around half of the total range areas (around 17,000 ha) are affected by the expansion of the weeds.

The expansion of exotic weeds critically suppresses the natural regeneration of indigenous tree/shrubs and grasses as well. It causes the subsequent severe shortage of food (grasses and sprouts of tree/shrub) for the wildlife, in particular for the larger mammals such as elephant, deer, etc.

***Chlomonaera* covering the ground under the open forest (Tholpetty Range)**

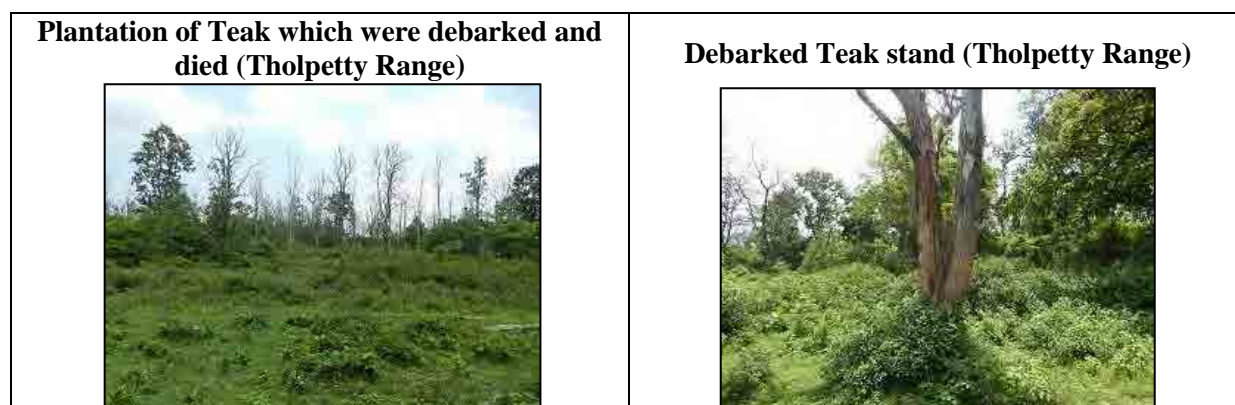


***Chlomonaera odorata* (Tholpetty Range)**



Source: JICA Survey Team, May 2014

Because of the subsequent shortage of food in the forest, the large mammal started to debark the Teak stands for their feeds, which causes immediate deaths of a whole Teak stand. This occurs in particular in Tholpetty range where half of the total areas are covered with Teak plantation.



Source: JICA Survey Team, May 2014

(2) Human-Animal Conflict

This is another subsequent problem caused by the food shortage in the forests as described in item (1). Increasing elephants, deers and other mammals are approaching the human settlements to search the food cultivated in farm lands. The worst case of the conflict is a death of a person who is badly attacked and trampled by an elephant. “Cattle lifting” that the predator kills and robs the cattle is another problem among the livestock keeping people. The following table shows the number of cases that occurred in the three divisions.

Human-Animal Conflict Cases in North Forest and Wildlife Sanctuary Divisions

Unit: No. of case

Division	Period	Human Death	Injury	House damage	Cattle loss	Crop damage	Total
North (2006-2011)	Total of six years	7	19	22	62	2,936	3,046
	Annual average	1	3	4	10	489	507
Wildlife (2000-2011)	Total of 12 years	21	24	41	201	3,854	4,197
	Annual average	2	2	3	17	321	345

Source: Working Plans of North Forest and Wildlife Sanctuary Division

South Forest Division presents the compensation paid for crop damages in the period between 2003 and 2010. The following table shows the number of applicants of the compensation and the amount of paid annually. Total amount of applications and compensation to be paid has been constantly increasing since 2003 to 2010. It indicates the issues getting even serious in the damaged communities and no effective measures have been applied so far.

Compensation Paid For Crop Damages in South Forest Division

Year	No. of Applicants	Amount of Paid (thousand Rs.)
2003-2004	105	396
2004-2005	141	365
2005-2006	227	799
2006-2007	507	2038
2007-2008	419	2177
2008-2009	405	1620
2009-2010	534	2615
Total	2,338	10,010

Source: Working Plan of South Forest Division

(3) Forest Fire

Apart from the issues of weed expansion and human animal conflict, forest fire is another threat directly affecting the quality and quantity of the natural forests and plantation as well. In the past 12 years from 2001 to 2012, approximately 4,100 ha were affected and damaged in total in Wayanad North and South Division, which gives annual damaged area is around 340 ha per year. The forest fire damages not only natural vegetation but also gives frequently serious impacts to the farm production in and fringe of the forest land as well.

To address the issues the divisional offices have been employing a few community members as a fire watcher in the dry season (January to May). However its positive impacts are limited because of the number of the watchers is not sufficient to cover the whole areas which are prone to the risks of wild fire.

11.3.3 Eco Tourism

As stated in **Section 9.7.1** several VSS and EDC have been engaging in guiding the tourists to the spots for sightseeing in the state forest land. There are the members of VSS/EDC who have good skills in doing a guide thus get substantial income to manage their livelihood. However no systematic trainings have been provided so far thus there is a limitation for them to increase further their earnings through working as a guide. Following points are the issues recognized by KFWD as major problems and future challenges in developing the tourism.

- i) Basic carrying capacity of the Wildlife sanctuary and the state forest land should be investigated to exactly know and design the potential of eco-tourism development in the target areas. Diagnostic survey on the fauna and flora will be one of the core parts of the investigation.
- ii) Basic knowledge and expertises for eco tourism is not sufficient to conduct and fulfil the duties of the tourism staff and the guides. Further trainings should be conducted to improve the knowledge and the skills regarding the ecotourism among the staffs and the guides.
- iii) Wildlife and forest vegetation in the tourism spots in the Sanctuary area continuously exposed and disturbed by the increasing tourists moving by the vehicles and affected their subsequent activities. Restriction is necessary to protect the natural ecosystem from the excessive adverse impacts brought about by the tourists.

11.4 Livelihood Activities**(1) Preference towards Assured Income - MGNREGA**

In Wayanad, various income generation activities are undertaken by the members of NHGs/ SHGs. However, they are in a small scale. Many of them start as a group but after some time, one by one, members leave the activity group. One of the common reasons for the group members to leave the activity group is that they prefer MGNREGA work to income generation activity as the former would provide them with stable and assured income whereas the latter would not as their payment would be made according to the profit.

(2) Low Profitability

The profit shared among the group members was Rs.200 per day on an average, if the constant demand is received. In many cases, the profit fluctuates and is not earned on a regular basis. The maximum amount that is earned from the income generation activity may be between Rs. 5,000 – 6,000 per month per member.

(3) Difficulties in Production Management and Marketing

Production is often done on-demand basis. To secure constant demand seems to be difficult as they do not have regular buyer. Members may spend their own money to participate in the fairs and exhibitions. Otherwise not much support has been given by Kudumbasree or other organisations in terms of production management and marketing.

(4) Lack of Strategic Selection of Products and Planning of an Enterprise

Most of the income generation activities, as reviewed in **Annex 4 of Volume III**, are commonly seen elsewhere in Kerala. Not much innovation was seen. Most common reason for selecting an income generation activity by the SHG members visited by the Survey Team was that the technical training was available to them. If it was to succeed as a business, the market needs to be identified and the products need to be selected that have the demand in the market.

During the survey, cluster based approach in enterprise development was not seen as a common enterprise development strategy. This implies that the planning of income generation activity might not have been intended for efficient commercial production and thus, SHGs were unable to undertake bulk production, which has reduced the marketability of the produces and reduced the profitability.

(5) Limited Value Addition Options

As seen in **Annex 4 of Volume III**, value addition for NTPFs and non NTFP products were limited in options. Currently available options are those that can be done at homes with minimum investment. Although some groups have invested in machineries/equipments, the profit to cover the maintenance is often difficult to be generated. Thus, the machineries/equipments are not well sustained.

11.5 Community Infrastructure**(1) Houses**

The fund provided by the housing programmes such as IAY and EMS could be recognized as so called the supplementary fund (or subsidy). Therefore, in case the beneficiary is not affordable to complement the remaining budget required to complete the house, the housing works remains uncompleted and unused.

EMS housing schemes sanctioned 12,462 houses for financing in 2009, however, completion rate of the sanctioned ones was 47.45% as of end March 2014. In the case of IAY housing scheme, 4,808 houses were sanctioned for financing in April 2013, and completed ones were 1,110 houses or 23% as of end March 2014.

The fact mentioned above implies that current housing programme prevailing in the district is not applicable or should not apply to the beneficiaries who are not able to meet the financial requirement to complete the house construction. In addition, it is to be noted that there is no housing scheme to cover the beneficiaries who really needs the scheme such as the vulnerable.

(2) Access Roads & Bridges

In general, the road network consisting of so called the district roads has been well established and its maintenance seems to be regularly executed.

On the other hand, most of the access roads to hamlets/ colonies located across the Wayanad District have been damaged in general. The pavement has been severely broken or remains part by part and so irregular in thickness and width. Further, field inspection revealed: i) that the original design of the road construction works was not properly done for the earth foundation, the base course, the sub-grade, and the pavement; ii) that the compaction of the respective layers was not well executed; iii) that thickness of each of the layers is not enough; iv) that the drainage system to protect the road body such as the side gutters, the catch drain and the cross drainage structure were not properly constructed or not constructed.

However, the regular maintenance and repair works for the damages are now not sufficiently being done. Therefore, the presently the access roads is left damaged and is not being recovered. As a result, the smooth traffic by the people, the bicycle, the motorcycle, the small vehicle, etc. are now difficult especially on the rainy day. Therefore, the repair and improvement works of the existing access roads are urgently required at present.

(3) Drinking Water Facilities

In case of the dug (open) well, the problem is not the water quantity but the quality (much bacteria content). As mentioned in the preceding chapter, the bacteria contents in the water varies in a range from 200 to 2000 MPN/100ml, while the allowable value is 10 MPN/100ml.

In case of the rain water harvest tank, the main problems are (i) the short usable period (only the rainy season) and (ii) the small water quantity. The rain is used as the supplementary water source.

(4) Electricity Facilities

As the electricity distribution line are almost everywhere running very near colonies/hamlets, the works needed to get the electricity include the construction of the incoming line from the distribution line to each of the houses.

Even though the distribution lines running nearby, there are houses in the colonies/hamlets that have no electricity supply without installing incoming line and the electric metre. It seems that those households cannot affordable to pay for the cost for incoming line connection and for the electricity charge for daily use as well.

(5) Health Centres

According to the District Office, the present issue concerning CHCs and PHCs are the support for the supplementary funds to fulfil the shortage of the budget for the on-going projects and future government programs for provision of the new facilities & equipment or replacement of the antiquated ones.

(6) Schools

The District Office explained the present issue concerning primary schools is in need of supplementary fund to fulfil the shortage of the budget for the on-going projects and future government programs for schools for the extension of the class rooms, the construction of the proper toilets, the replacement of the antiquated school facilities and equipment.

11.6 Capacity Development

11.6.1 Community Level Institutions

Across the sectors, sense of ownership towards the community infrastructures appears to have been lacking. Further, the dependency of the community members towards the government was observed to be high. Gram Sabha and Ooru Kootham did provided the opportunities for the community members to come together, yet, mostly the platform was used to identify the issues and requests for the government and to identify beneficiaries of various schemes but not to arrive at their own solution. No such programme to support their own initiative in problem solving.

11.6.2 Livelihood Component – Enterprise Development

As reviewed, Kudumbasree is active in Wayanad District. It provides training programmes for enterprise development. The programme is comprehensive. The programmes listed below.

Overview of Kudumbasree Enterprise Development Programme

1st Phase: 3 Days	2nd Phase: 2 Days
<ul style="list-style-type: none"> • Need and Scope to increase income • Scope of enterprises • Enterprise 	<ul style="list-style-type: none"> • Scheduling • Production: Code of Conduct • Scientific Price Fixing

1st Phase: 3 Days	2nd Phase: 2 Days
<ul style="list-style-type: none"> • Entrepreneur and skills required • Group Dynamics • How to make an enterprise profitable (4C+E Formula) • Leadership and Useful Communication • Factors of Success • Financial management of the enterprises • Factors influencing the Micro Enterprises • Business Plan Preparation 	<ul style="list-style-type: none"> • Marketing • Rules relevant to the Entrepreneurs • Banking Rules • Business Planning

Source: Kudumbasree District Mission – Wayanad (2014)

The above training programme provides an entry point to the income generation activity. Skill training is given by various institutions, NGOs, and government organisations. However, the training would not be sufficient for many of the groups to become self sustaining. Advanced skill training in value addition and product development do not seem to be sufficient. Hand holding support in record keeping, business management and marketing need to be enhanced.

11.7 Monitoring and Evaluation

(1) Lessons learned from AWCECOP on Monitoring and Evaluation

i) Lessons on M&E system

According to the completion report of AWCECOP, it is suggested to add simple capacity assessment of the trainees on the skills, which are to be improved by the training seminars. The results of the capacity assessments before and after the skill trainings will be entered to the database of the MIS system. Cumulated database on the assessments will be analysed to assess the effect of the trainings. This analysis enables PMU to improve the quality of the trainings.

ii) Lessons on MIS

Based on the interview with a former AHADS staff, who worked for AWCECOP, the MIS for AWCECOP was simply composed of the basic modules such as data entry Excel sheets and the reporting format of Word files, which were formatted, and not flexible enough to customise the format to adjust the activities. This is why, the interviewee pointed out that MIS in AWCECOP has seemed not to be enough for monitoring every kind of sub-component work, and is not flexible enough to accommodate the requirement to monitor the proposed project.

(2) In Need of Establishing New M&E System

During AWCECOP, AHADS used MIS for an effective M&E. However, it has been neither used, nor functioned after completion of AWCECOP. It is essential to establish a new M&E system and employ staff for M&E and MIS for the Project.

Chapter 12 Environmental and Social Considerations

12.1 Western Ghats Mountains

12.1.1 Significance of Western Ghats

Western Ghats (WG) mountain system which is spread over the entire southern Indian peninsula, exert a major influence in all spheres of life of the population of six states (Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat). WG also regulates and supply water to six major and innumerable minor rivers forming the catchment area for complex river drainage systems. Being declared a biodiversity hotspot by International Union for Conservation of Nature (IUCN), this mountain area drew attention not only nationally but internationally. Innumerable studies of its biodiversity, flora and fauna, rivers and wetlands, land and people brought forth further need for its conservation as most of these studies also pointed out imminent destruction and degradation. Kerala's faunal wealth is embedded in the biodiversity of the entire WG. Elongated north-south lay of the State is, therefore, mostly in WG. Over last few decades, extensive natural forests have been replaced with forest plantations and outside sanctuaries, reserved and vested forests, commercial plantations further fragment the contiguity of forests. (Gadgil, 2011¹).

12.1.2 Declaration of Ecologically Sensitive Areas

Realizing the need to protect and rejuvenate the ecology of and for sustainable development in WG, the Ministry of Environment and Forests (MoEF) has struggled to demarcate Ecologically Sensitive Areas (ESA) and suggest measures to conserve, protect and rejuvenate the ecology of WG region. In 2011, Western Ghats Ecology Expert Panel (WGEEP) was constituted by MoEF to assess the current status of ecology of the WG region and demarcate areas within the WG region, which needs to be designated as ecologically sensitive and to recommend for notification of such areas as ecologically sensitive zones under the Environment (Protection) Act, 1986 and also to make recommendations for the conservation, protection and rejuvenation of WG Region following a comprehensive consultation process involving people and Governments of all the concerned States. WGEEP, therefore, demarcated the entire WG region as ESA, after careful and extensive compilation of information, and thorough field visits, consultations and analysis. Based on ESA thus demarcated, they assigned zones of three levels of ecological sensitivity: Ecologically Sensitive Zone-1 (ESZ 1), ESZ 2 and ESZ 3. By doing so, they recommended permissible and non-permissible activities in each zone in order to conserve ecological balance on a long term basis. (see **Annex 9.5 in Volume III** for further information)

12.2 Legal and Policy Framework for Environmental and Social Considerations in India and Kerala

12.2.1 Laws, Regulations and Notifications Relevant to Environmental and Social Considerations

The table below outlines the important laws, acts, regulations, rules, notification and standards of the following key areas which shall be applicable for environmental social safeguards of the Project: i) environmental protection and EIA; ii) forest (forest and wildlife conservation); iii) water and air (prevention and control of pollution); iv) land and resettlement (land acquisitions and resettlement);

¹ Gadgil M, 2011. Report of the Western Ghats Ecology Expert Panel, Part I, MoEF, GoI

and v) tribe and forest dweller. The next table outlines important state-level policy, laws and regulations which shall be applicable to address specific issues in Kerala.

National Level Legal and Regulatory Framework for Environmental and Social Safeguards

	Legislation	Main Provisions	Institutions Concerned	Relevance to the Project
1)	Environmental Protection and EIA			
1	Environmental Protection Act 1986 and amendment 1991	The Act is designed to provide a framework for coordination among various central and state Government authorities for the protection and improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property.	Central/State Pollution Control Boards	The Act is “umbrella” legislation, thus generally concerns all aspects of environmental safeguard.
2	Environment (Protection) Rules, 1986 and amendments	The Rules were defined under the Environmental Act 1986. It provides for standards for emissions or discharge of environmental pollutants.	Central/State Pollution Control Boards	Infrastructure development concerns the emission standards of the Act.
3	EIA Notification 2006, and amendments 2009, 2011, 2012	It provides for requirement conditions of EC, EIA authorities, categorization schedule of projects and activities for EC, EC stages etc.	Relevant authorities concerned with EC and EIA in central and state levels	If there will be large-scale infrastructure development, the Project will be required to obtain EC in advance.
4	National Green Tribunal Act 2010	An Act to provide for the establishment of a National Green Tribunal for the effective and expeditious disposal of cases relating to environmental protection and conservation of forest and other natural resources including enforcement of any legal right.	National Green Tribunal(NGT)	Wayanad forest divisions are dealing with several cases of encroachments and cases of paying compensations for the damages/losses caused by relocations or animal attacks to the private properties. Designation of ESA in WG by MoEF heavily concerns the decision and the guidance of NGT.
2)	Forest			
1	National Forest Policy 1988	It is a basic forestry policy of India, which led to a programme named Joint Forest Management (JFM). Also, it states that 33% of the area of India should be under forest/tree cover through involvement of local communities in JFM.	MoEF, Kerala Forest and Wildlife Department, PRI	The Project has a component involving various activities for improvement of forest by supporting EDC and VSS outside the PA.
2	Indian Forest Act 1927	The Act was based on previous forest related regulations of India such as Indian Forest Act of 1878. It aimed at preserving areas of forest cover or significant wildlife. It defines the procedure for declaring a Reserved Forest, a Protected Forest or a Village Forest.	MoEF, Kerala Forest and Wildlife Department, PRI	The Project has a component which operates in the state forests to be operated as per the provisions of the Act.
3	Forest Conservation Act 1980 and amendment 1988	The Act defines for restriction on the de-reservation of forests or sues of forest land for non-forest purpose. In the Act, “non-forest purpose” was defined as the cultivation of tea, coffee, spices, rubber, palms, oil-bearing plants, horticultural crops or medicinal plants.	MoEF, Kerala Forest and Wildlife Department, PRI	Project activities involving forest land need to comply the provisions of the Act.
4	Wildlife Protection Act 1972 and amendment 1993	The Act provides for hunting for wild animals, protection of specified plants, Sanctuaries, National Parks and Closed Areas. It also defines powers of prevention and	MoEF, Kerala Forest and Wildlife Department	Human-animal conflicts at the fringe area of Wayanad WL sanctuary is a major issue for the Project.

Legislation		Main Provisions	Institutions Concerned	Relevance to the Project
		detection of offences for wild animals and plants.		The Project needs to ensure that endangered animal and plant species will not be threatened.
5	Biological Diversity Act 2002	The Act provides for conservation, use of biological resources. It provides for a framework regarding access to biological resources and benefits sharing.	National Biodiversity Authority, State Biodiversity Board	WG region is a major refugee area of biodiversity. ESA designation on WG is now under the discussion of the GoI.
3) Water and Air				
1	Water (Prevention & Control of Pollution) Act 1974 and amendment 1988	The Act provides for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water. The act also provides for the establishment of central and state boards for the prevention and control of water pollution, and their powers and functions.	MoEF, Central Pollution Control Board, Ministry of Water Resources, Kerala Water Authority, State Pollution Control Board	Infrastructure development needs to comply with the provisions to prevent and control water pollution. The Project will support forestry activities would prevent undue siltation and recharge the groundwater
2	Air (Prevention and Control of Pollution) Act 1981	The Act provides for the prevention, control and abatement of air pollution. The act also provides central and state boards for the prevention and control of air pollution.	MoEF, Central Pollution Control Board, State Pollution Control Board	Infrastructure development needs to comply with the provisions to prevent and control air pollution.
3	National Wetland Conservation Programme (NWCP) 1985-86 updated 2009	Conservation of Wetlands is ensured through various legal instruments under different ministries: Indian Forest Act, 1927; Forest (Conservation) Act, 1980; Wildlife (Protection) Act, 1972; Air (Prevention and Control of Pollution) Act, 1974; Water (Prevention and Control of Pollution) Act, 1974; Water Cess Act, 1977; Environment (Protection) Act, 1986; Biological Diversity Act, 2002; Coastal Regulation Zone Notification, 1991; and their respective amendments. This program is in line with Ramsar convention, 1975 – the International Treaty to conserve wetlands for sustainable utilization. Conservation of wetlands is an important step to prevent further degradation and ensuring their wise use for the benefit of local communities and overall conservation of biodiversity.	MoEF, Central Pollution Control Board, State Pollution Control Board	Wayanad is said as a major paddy producing area of Kerala, but under severe pressure of conversion. Wayanad has unique wetland ecosystem, such as “Myristica Swamps”.
4) Land and Resettlement				
1	Land Acquisition Act 1894 and amendment 1985	The Act provides for Government to acquire private lands for public purposes after paying compensation.	Ministry of Rural Development, Kerala Land Revenue Department	The Project shall avoid sub-projects involving land acquisition.
2	National Resettlement and Rehabilitation Policy (NRRP) 2007	The Policy recognizes the rights of vulnerable groups such as SCs/STs and calls for minimizing involuntary resettlement and provision of adequate compensation.	Ministry of Tribal Affairs, Ministry of Rural Development, Kerala ST-SC Development Department, Kerala Local Self Government Department, Kerala	The Project plans to avoid land acquisition and resettlement. Socially vulnerable people such as SC and ST will have special considerations in FDDF.

Legislation	Main Provisions	Institutions Concerned	Relevance to the Project
		Forest and Wildlife Department, PRI	
5) Tribe and Forest Dweller			
3 Scheduled Tribes and other Traditional Forest Dwellers (Forest Rights) Act 2006	The Act provides for rights of land and other forest resources to forest-dwelling communities. The Act recognises and vests the forest rights and occupation in forest land in forest dwelling Scheduled Tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded.	Ministry of Tribal Affairs, Ministry of Rural Development, Kerala ST-SC Development Department, Kerala Local Self Government Department, Kerala Forest and Wildlife Department, PRI	The Project shall fully respect the rights of forest dwellers in design and implementation of interventions. The Project will equip FDDF for issue to be addressed to ST and Forest Dwellers.

Source: Compiled and summarized by the JICA Survey Team (2014) based on the original documents.

State Level Legal and Regulatory Framework for Environmental and Social Safeguards

#	Legislation	Main Provisions	Institutions Concerned	Relevance to the Project
1	Kerala State Environment Policy 2009	The policy is to ensure clean air, water, soil and food to the people of Kerala and its sustainability for a healthy living condition.	MoEF, GoI State Forest and Wildlife Department	The Act generally concerns all aspects of environmental safeguard in the state level.
2	Kerala Forest (Vesting and Management of Ecologically Fragile Lands) Act 2003 and amendment 2009	An Act to provide for the vesting in the Government of ecologically fragile lands in the State of Kerala and for the management of such lands with a view to maintaining ecological balance and conserving the bio-diversity.	MoEF, State Forest and Wildlife Department	In Wayanad, 2,673.03 ha of EFL, which is 3% of the State total is identified by the Forest Department. The natural environment improvement component will have activities in the state forest land.
3	Kerala Private Forests (Vesting and Assignment) Act, 1971	The Act is to provide for the vesting in the Govt of private forests in the State and for the assignment thereof to agriculturists and agricultural labourers for cultivation.	MoEF, State Forest and Wildlife Department	The area of vested forests in Wayanad is 31,380.34 ha (2012). The natural environment improvement component will have activities in the state forest land.
4	Kerala State Biological Diversity Rules 2008	The rule was made in exercise of the powers by the Biological Diversity Act 2002. It provides for the state biodiversity board, the state biodiversity fund, the Biodiversity management Committees.	MoEF, GoI State Forest and Wildlife Department	Specific issues on biodiversity will be treated under the supervision of state level authorities.
5	The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013	To ensure, in consultation with institutions of local self-Government and Gram Sabhas established under the Constitution, a humane, participative, informed and transparent process for land acquisition for industrialisation, development of essential infrastructural facilities and urbanization with the least disturbance to the owners of the land and other affected families	Ministry of Rural Development, Kerala ST-SC Development Department, Kerala Local Self Government Department, PRI	The Project will ensure that all precautions are taken to respect this Act if and when any land acquisition for industrial and other developmental activities take place in the District.
6	A People Centred Service Delivery Policy, 2004	To deliver public services in a people centred, effective, equitable, affordable, sustainable and accessible manner. It has several features of social accountability such as citizen consultation, stakeholder participation in deciding improvements, social audit, continuous assessments, transparency, performance standards etc	Ministry of Rural Development, Kerala ST-SC Development Department, Kerala Local Self Government Department, PRI	The Project will microplan by participatory approach. All the process of the project activities need to have appropriate measures as per the Policy.
7	The Municipal	It is the responsibility of the Municipal	Municipal	Solid waste management

#	Legislation	Main Provisions	Institutions Concerned	Relevance to the Project
	Solid Wastes (Management and Handling) Rules, 2000.	Authority to manage waste generated within its territories and is responsible for the implementation of the provisions of these rules.	Corporations	is a major municipal problem in Wayanad, to have consideration in the implementation of the Project.

Source: Compiled and summarized by the JICA Survey Team (2014) based on the original documents.

12.2.2 Environmental Impact Assessment – Environmental Clearance

(1) EIA System in India

Environmental Impact Assessment (EIA) was made mandatory in India based on the Environmental Protection Act (EPA), 1986, which came into effect in January, 1994. Subsequently, there were series of amendments to the Act. Finally, EIA Notification of MoEF (2006) and its amendments were issued to be followed in any project proposals that need Environmental Clearance (EC). The introduction of a number of new acts, laws and standards as well as amendments and notifications in the last several decades resulted in having fairly comprehensive legal and regulatory framework with regard to environmental assessment such that they are relatively consistent with international practices.

(2) Project Types that Require Environmental Clearance (EC)

1) Categorization of Projects and Activities

Under EIA related laws and regulations, projects and activities are broadly divided into two categories (Category A and Category B) based on the foreseen potential impacts on the environment and human health. Before any construction work, or preparation of land, except for securing the land, all projects and activities which are listed in the table below shall require prior EC from the concerned Government authorities. The project and activity falling under Category 'A' will be dealt with by the central Government; MoEF. While the one falling under Category 'B' will be dealt with by the state Government; State Environment Impact Assessment Authority (SEIAA).

List of Projects or Activities Requiring Prior Environmental Clearance

Activity/Project		Category with Threshold Limit	
		A	B
1	Mining, extraction of natural resources and power generation (for a specified production capacity)		
1(a)	Mining of minerals	≥ 50 ha. of mining lease area	<50 ha ≥ 5 ha .of mining lease area.
1 (b)	Offshore and onshore oil and gas exploration, development & production	All projects	-
1 (c)	River Valley projects	(i) ≥ 50 MW hydroelectric power generation (ii) ≥ 10,000 ha. of culturable	(i) < 50 MW ≥ 25 MW hydroelectric power generation (ii) < 10,000 ha. of culturable land area
1(d)	Thermal Power Plants	≥ 500 MW (coal/lignite/naphtha & gas based) ≥ 50 MW (Pet coke diesel and all other fuels)	< 500 MW (coal/lignite/naphtha & gas based); <50 MW ≥ 5MW (Pet coke, diesel and all other fuels)
1(e)	Nuclear power projects and processing of nuclear fuel	All projects	-
2	Primary Processing		
2 (a)	Coal washeries	≥ 1 million ton/annum throughput of coal	<1million ton/annum throughput of coal

Activity/Project		Category with Threshold Limit	
		A	B
2 (b)	Mineral beneficiation	≥ 0.1million ton/annum mineral throughput	< 0.1million ton/annum mineral throughput
3	Material Production		
3(a)	Metallurgical industries (ferrous and non ferrous)	a)Primary metallurgical industry All projects b) Sponge iron manufacturing ≥ 200TPD (Tons Per Day) c) Secondary metallurgical processing industry All toxic and heavy metal producing units ≥ 20,000 ton/annum	Sponge iron manufacturing <200TPD Secondary metallurgical processing industry i) All toxic and heavy metal producing units <20,000 ton /annum ii) All other non-toxic secondary metallurgical processing industries >5,000 ton/annum
3(b)	Cement Plants	≥ 1.0 million ton/annum production capacity	<1.0 million ton/annum production capacity. All Stand alone grinding units
4	Material Processing		
4 (a)	Petroleum refining industry	All projects	-
4(b)	Coke oven plants	≥250,000 ton/annum	<250,000 & ≥25,000 ton/annum
4(c)	Asbestos milling and asbestos based products	All projects	-
4(d)	Chlor-alkali industry	≥300 TPD production capacity or a unit located outside the notified industrial area/ estate	<300 TPD production capacity and located within a notified industrial area/estate
4(e)	Soda ash Industry	All projects	-
4(f)	Leather/skin/hide processing industry	New projects outside the industrial area or expansion of existing units outside the industrial area	All new or expansion of projects located within a notified industrial area/estate
5	Manufacturing/Fabrication		
5(a)	Chemical fertilizers	All projects	-
5(b)	Pesticides industry and pesticide specific intermediates	All units producing technical grade pesticides	-
5(c)	Petro-chemical complexes	All projects	-
5(d)	Manmade fibers manufacturing	Rayon	Others
5(e)	Petrochemical based processing	Located outside the notified industrial area/estate	Located in a notified industrial area/estate
5(f)	Synthetic organic chemicals industry	Located outside the notified industrial area/estate	Located in a notified industrial/estate
5(g)	Distilleries	(i) All Molasses based distilleries (ii) All Cane juice/non-molasses based distilleries ≥30 KLD (Kilo Litres per Day)	All Cane juice/non-molasses based distilleries <30 KLD
5(h)	Integrated paint industry	-	All projects
5(i)	Pulp & paper industry excluding manufacturing of paper from waste paper and manufacture of paper from ready pulp without	Pulp manufacturing and Pulp and paper manufacturing industry	Paper manufacturing industry without pulp manufacturing

Activity/Project		Category with Threshold Limit	
		A	B
	bleaching		
5(j)	Sugar industry	-	≥ 5,000 TCD (Ton of Cane per Day) cane crushing capacity
5(k)	Induction/arc furnaces/cupola furnaces 5TPH (Total Petroleum Hydrocarbon) or more	- -	All projects
6	Service Sectors		
6(a)	Oil & gas transportation pipe line	All projects	-
6(b)	Isolated storage & - handling of hazardous chemicals	-	All projects
7	Physical Infrastructure including Environmental Services		
7(a)	Air Ports	All projects	-
7(b)	All ship breaking yards including ship breaking units	All projects	-
7(c)	Industrial estates/parks/complexes /areas, export processing zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes.	If at least one industry in the proposed industrial estate falls under the Category A, entire industrial area shall be treated as Category A, irrespective of the area. Industrial estates with area greater than 500 ha and housing at least one Category B industry.	Industrial estates housing at least one Category B industry and area <500 ha Industrial estates of area >500 ha and not housing any industry belonging to Category A or B.
7(d)	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	All integrated facilities having incineration & landfill or incineration alone	All facilities having land fill only
7(e)	Ports, Harbors	≥ 5 million TPA (Tonnes Per Annum) of cargo handling capacity (excluding fishing harbors)	< 5 million TPA of cargo handling capacity and/or ports/ harbors ≥10,000 TPA of fish handling capacity
7(f)	Highways	i) New National Highways; and ii) Expansion of National Highways greater than 30km, involving additional right of way greater than 20m involving land acquisition and passing through more than one State	i) New National Highways; and ii) Expansion of National Highways greater than 30 km, involving additional right of way greater than 20m involving land acquisitions
7(g)	Aerial ropeways	-	All projects
7(h)	Common Effluent Treatment Plants (CETPs)	-	All projects
7(i)	Common Municipal Solid Waste Management Facility (CMSWMF)	-	All projects
8	Building/Construction projects/Area Development projects and Townships		
8(a)	Building and Construction projects	-	≥20,000 m ² and <150,000 m ² . Of built-up area

Activity/Project		Category with Threshold Limit	
		A	B
8(b)	Townships and Area Development projects	-	Covering an area ≥ 50 ha and built up area $\geq 150,000$ m ²

Source: Based on EIA Notification (No. S.O.1533 dated 14/09/2006) of MoEF, modified by the JICA Survey Team (2014)

2) Procedures for Environmental Clearance (EC)

The proposed Project aims at strengthening the equitable growth policies and poverty reduction strategies to ensure that the most vulnerable and marginalised people in the rural areas of Wayanad district have a greater access to productive assets, employment opportunities, skill development, social protection and sustainable livelihoods. At this stage, it is expected that the Project will not include any sub-projects requiring environmental clearance nor any activities with major social impacts.

However, it is important to assess whether an adequate legal framework is in place for screening, avoiding and mitigating for any Project activities which may have deleterious impact on the environment, especially forests and natural habitats.

The figure below indicates standard procedures for Category B projects.

According to the EIA Notification of MoEF (2006), EC process comprises of four major stages as described in the table below: i) Screening, ii) Scoping, iii) Public Consultation, and iv) Appraisal. All of which may not apply to particular cases as set forth below in the notification. The figure in the next page summarises prior Environmental Clearance process for category B projects.

Essential Procedures for EIA (Environmental Clearance)

Procedures	Belief Description
Screening	<ul style="list-style-type: none"> - In the case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior EC made in Form 1 by the concerned SEAC for determining whether or not the project or activity requires further environmental studies for preparation of EIA for its appraisal prior to the grant of EC depending up on the nature and location specificity of the project. - The projects requiring an EIA report shall be termed Category 'B1' and remaining projects shall be termed Category 'B2' and will not require an EIA report. - For categorization of projects into B1 or B2 except item 8 (b), MoEF shall issue appropriate guidelines from time to time.
Scoping	<ul style="list-style-type: none"> - "Scoping" refers to the process by which the Expert Appraisal Committee in the case of Category 'A' projects or activities, and State level Expert Appraisal Committee in the case of Category 'B1' projects or activities, including applications for expansion and/or modernization and/or change in product mix of existing projects or activities, determine detailed and comprehensive Terms of Reference (ToR) addressing all relevant environmental concerns for the preparation of an EIA report in respect of the project or activity for which prior EC is sought. - The Expert Appraisal Committee or State level Expert Appraisal Committee concerned shall determine the ToR on the basis of the information furnished in the prescribed application Form1/Form 1A including ToR proposed by the applicant, a site visit by a sub- group of Expert Appraisal Committee or State level Expert Appraisal Committee concerned only if considered necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, ToR suggested by the applicant if furnished and other information that may be available with the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. - All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction/Township/Commercial Complexes /Housing) shall not require
Public Consultation	<ul style="list-style-type: none"> - "Public Consultation" refers to the process by which the concerns of local affected persons

Procedures	Belief Description
	<p>and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate.</p> <ul style="list-style-type: none"> - All Category 'A' and Category B1 projects or activities shall undertake Public Consultation, except the following: <ul style="list-style-type: none"> - modernization of irrigation projects (item 1(c) (ii) of the Schedule). - all projects or activities located within industrial estates or parks (item 7(c) of the Schedule) approved by the concerned authorities, and which are not disallowed in such approvals. - expansion of Roads and Highways (item 7 (f) of the Schedule) which do not involve any further acquisition of land. - all Building /Construction projects/Area Development projects and Townships. - all Category 'B2' projects and activities. - (f) all projects or activities concerning national defence and security or involving other strategic considerations as determined by the Central Government.
Appraisal	<ul style="list-style-type: none"> - "Appraisal" means the detailed scrutiny by the Expert Appraisal Committee or State Level Expert Appraisal Committee of the application and other documents like the Final EIA report, outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned for grant of EC. - This appraisal shall be made by Expert Appraisal Committee or State Level Expert Appraisal Committee concerned in a transparent manner in a proceeding to which the applicant shall be invited for furnishing necessary clarifications in person or through an authorized representative. - On conclusion of this proceeding, the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall make categorical recommendations to the regulatory authority concerned either for grant of prior EC on stipulated terms and conditions, or rejection of the application for prior EC, together with reasons for the same.

Source: EIA Notification (No. S.O.1533 dated 14/09/2006) of MoEF, modified by the JICA Survey Team (2014)

<Abbreviations>

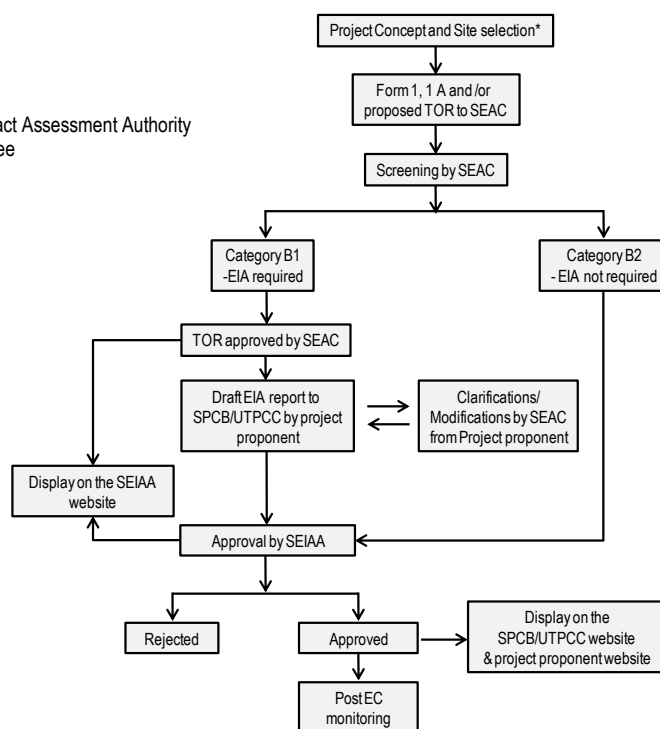
ToR: Terms of Reference

SEIAA: State Level Environmental Impact Assessment Authority

SEAC: State Expert Appraisal Committee

EC: Environmental Clearance

SPCB: State Pollution Control Boards



Prior Environmental Clearance Process for Category B Projects

Source: EIA Guidance Manual for Building, Construction, Townships and Area Development Projects 2010, MoEF

EIA notification of MoEF (2006) states that any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: i) Protected Areas notified under the Wildlife (Protection) Act, 1972; ii) critically polluted areas as notified by the Central Pollution Control Board from time to time; iii) notified eco-sensitive areas; or iv) inter-state boundaries and international boundaries. Notifications for declaring areas as Ecologically Sensitive Areas (ESAs) have been issued by MoEF under the Environmental (Protection) Act 1986.

12.3 Environmental and Social Consideration Institution and Organization in Kerala**12.3.1 Ministry of Environment and Forests**

Ministry of Environment and Forests (MoEF) is India's central administrative body for: i) regulating and ensuring environmental protection; ii) formulating the environmental policy framework in the country; iii) undertaking conservation & survey of flora, fauna, forests and wildlife; and iv) planning, promotion, co-ordination and overseeing the implementation of environmental and forestry programmes. The organizational structure of the ministry covers number of Divisions, Directorate, Board, Subordinate Offices, Autonomous Institutions, and Public Sector Undertakings to assist it in achieving all these objectives. As discussed in the **Section 12.2.2**, the decision to grant EC to the project and activity falling under Category 'A' is based on the discretion of MoEF.

12.3.2 Central Pollution Control Board

The Central Pollution Control Board (CPCB) was constituted in 1974 under the Water (Prevention and Control of Pollution) Act, 1974, further conformed to the provision of the Air (Prevention and Control of Pollution) Act, 1981. CPCB provides technical services to MoEF, and has the responsibility for prevention and control of industrial pollution at the central level.

The CPCB has developed National Standards for Effluents and Emission under the statutory powers of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. These standards have been approved and notified by the Government of India, MoEF, under Section 25 of the Environmental (Protection) Act, 1986. Besides, standards for ambient air quality, ambient noise, automobile and fuels quality specifications for petrol and diesel have been also notified by CPCB.

12.3.3 National Green Tribunal

As per the National Green Tribunal (NGT) Act 2010, the NGT was established in October, 2010. NGT shall have the jurisdiction for all civil cases where a substantial question relating to environment (including enforcement of legal rights). NGT is a specialized body equipped with the necessary expertise to handle multi-disciplinary issues relating to environmental protection, forest conservation and other natural resources. NGT also provides relief and compensation for damages to persons and property.

Wayanad Forest Divisions are dealing with several cases of encroachments and cases of paying compensations for the damages/losses caused by relocations or animal attacks to the private properties. Although such cases are usually settled at the district level thus not directly handled at the National Tribunal, the leading cases dealt at national level could affect the judgement of the cases at the district and the state level. Currently, NGT has become the centre of attention to the public as it effectively resolved controversial projects pushed forward by the state Governments despite public protest (recent rejection of the construction of an airport on paddy wetlands by reclamation at Ambalapuzha, Kerala).

12.3.4 State Level Environment Impact Assessment Authority Kerala

EC process for Category 'B' project, which environmental impact were considered to be below a prescribed threshold level by EIA notification 2006, are to be appraised at state level authorities. Hence, State Level Environment Impact Assessment Authority (SEIAA) is obliged to be constituted by GoI in consultation with GoK under sub-section (3) of section 3 of the Environment (Protection) Act, 1986.

SEIAA Kerala constituted in 2012 as per Government order, comprises of three members including a Chairman and a Member Secretary nominated by GoK. The Directorate of Environment & Climate Change is the Secretariat of SEIAA as well as State Level Expert Appraisal Committee (SEAC) Kerala.

12.3.5 Kerala State Pollution Control Board

The Kerala State Pollution Control Board (KSPCB) was established in 1984, formally known as the Kerala State Board for Prevention and Control of Water Pollution which was constituted in 1974. KSPCB is the designated agencies to perform and complement CPCB's function at the state level. The board is entrusted with the implementation of the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and various other related rules and notifications. The functions of the board are defined in the Water and Air Acts which engage enforcement, advisory, monitoring, research, and public awareness.

Head office of the board is located at Thiruvananthapuram. It has two regional offices at Ernakulam and Kozhikode, and nine district offices at Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Thrissur, Palakkad, Malappuram and Kannur. The board has the Central Laboratory at Ernakulam and there are laboratories attached to all the field offices. The Board is under the Department of Health & Family Welfare of the Kerala Government.

12.3.6 Kerala State Biodiversity Board

The Kerala State Biodiversity Board (KSBB) is an autonomous body of GoK. The board was created as per the provision of Kerala State Biological Diversity Rules 2008. KSBB is dedicated into conservation and protection of the agro, plant and fish diversity of the state. The board consists of the chairman, five ex-officio members, five non-official members and one member secretary. The headquarter is located at Thiruvananthapuram. Currently, the chairman of the board is Dr. Oommen V. Oommen.

As discussed in the **Section 12.1.2**, MoEF, in order to conserve the ecological integrity of WG, considered identifying Ecologically Sensitive Areas (ESA) in WG. MoEF commissioned various committees to carry out this task and based on their recommendations ESA would be notified. In Kerala, ESA identified is spread over an area of 9,993.7 km² (9,107 km² of forest and 886.7 km² of non-forest area). The area includes 44.52% of Wayanad, and it may have a substantial impact on certain development activities in the district. The state Government is of the view that agricultural areas and residential areas may be kept out of the ESA, and appointed Dr. Oommen V. Oommen to study the MoEF's proposal. The exercise of re-demarcating the ESA in the state has already been completed, and results are under scrutiny of MoEF and the state Government (as of Aug, 2014) (see the **Annex 9 in Volume III** for further information).

PART-III Review of DPR

Chapter 13 Detailed Review of DPR

13.1 General

The project proposed in DPR has been formulated as a replica of AWCECOP in respect of: i) project approach, ii) project components and activities, and iii) implementation framework. One of the key approaches proposed is “holistic area based development”, in which integration of various aspects of environmental regeneration and social development is conceived as applied in AWCECOP. Proposed components and activities are totally the same with the ones implemented in AWCECOP, which therefore include a large scale and a variety of land based activities in agriculture and forestry sectors. DPR also proposed AHADS-CCPRM as the sole executing agency of the project due to the reason that experience and knowledge acquired through AWCECOP is indispensable for efficient and effective implementation of the replicated project.

According to the terms of reference for the Survey, the objectives of the Project are defined “to contribute to the improvement of the livelihood and balanced socio-economic development in the Wayanad District through improvement of livelihood and living condition of BPL households and restoration of ecosystem”.

The Survey Team has studied and analysed present conditions of Wayanad in the light of the objectives of the Project mentioned above. As a result, it was found that:

- i) BPL households in Wayanad are heterogeneous group of people with a wide variation of livelihood conditions among social and gender groups. They are not clustered together in specific areas but residing in colonies/hamlets across the district.
- ii) Most of the BPL households are landless or marginal farmers with land holding size of less than 0.04 ha (JICA Survey Team, 2014), which implies that they have limited access to productive asset.
- iii) Socio-economic conditions in Wayanad are different from the ones in the project area of AWCECOP.
- iv) Wayanad is blessed with favourable natural conditions: fertile soils, good precipitation and rich vegetation. Lands in the district are generally well maintained and degradation has been identified at the limited scale.

Taking those findings into consideration, the features of the Project proposed in DPR, April 2014 were reviewed and compiled in the following sections.

13.2 Main Features of the Project Proposed in DPR

13.2.1 Project Goal, Objectives, and Approaches as in DPR

(1) Project Goal

- Enhance livelihood security and social capital for BPL people

(2) Objectives of the Project

- Enhance that most vulnerable and marginalised people in rural and urban areas have great access to productive assets, decent employment, skill development, social protection and sustainable livelihoods based on sustainable ecosystem

(3) Approaches

- Apply a completely participatory approach through institutionalising Grama Sabah into democratically constituted implementation body (Vikasana Samithies: VS)

- Using micro watershed maps for formulating an area based development plan (micro plan)
- Designing intensive inputs on capacity building of the implementing bodies
- Establishing implementation arrangement to link VSs to their respective Grama Panchayats

13.2.2 Components/Activities Proposed in DPR

The following table is a summary of the project components/activities and their cost proposed in DPR, April 2014.

Summary List of Project Components/Activities

	Components/Intervention	Quantity	Amount (Rs. Million)	
1	Survey, Planning and Designing	LS	40	
2.	Agriculture Allied Activities			
2.1	Land Based Activities		1,100	
	(1) Land and Agriculture Development - Introduction of optimum land utilization	n.a		700
	(2) Structural Measures for Soil and Water Conservation - Soil and water conservation intervention - Drainage line treatment	10,000 ha 100 km		400
2.2	Livelihood Improvement Activities		200	
	(1) Livestock Development - Provision of a pair of milch cow	10% of BPL ST		100
	(2) Sericulture Development - Cash provision of Rs. 100,000/farmer	1,000 farmers		100
2.3	Income Generating Activities		210	
	(1) Revolving Fund	LS		180
	(2) Training and Necessary Arrangement	LS		30
3.	Eco-restoration, Augmentation of Natural Resource Base			
3.1	Augmentation/Reforestation for Natural Regeneration	7,000 ha	350	
3.2	Biomass Conservation and Fire Protection	17,500 ha	350	
3.3	Bamboo and Rattans Cultivation	2,000 ha	100	
3.4	Soil and Moisture Conservation - Check dam and gully plugging - Stabilization of watercourse banks	13,750 ha	275	
3.5	Non Timber Forest Produces - Training for scientific collection of NTFP - Technical training and tools for primary processing - Ware housing - Engaging Processing Experts - Processing units, promotion and marketing	LS	100	5 5 30 5 55
3.6	Medicinal Plant - Survey and Demarcation of Medicinal Plant Area (MPA) - Conservation and enrichment of endangered and threatened species (RET) - Enrichment planting of commercial MP - Training for scientific collection of MP - Technical training and tools for primary processing - Engaging Processing Expert - MP based processing units, promotion and marketing	LS	100	5 30 44 5 5 1 10
3.7	Eco Tourism - Promotion, marketing and study tours - Training tribal guides - Providing camping gears eco tourism groups - Establishing ethnic village for overnight stay - Logistics for trekking, tree huts, tents, etc.		83	2 3 25 48 5

	Components/Intervention	Quantity	Amount (Rs. Million)	
4.	Housing Development- THDP (Housing and Landscaping)	1,625 houses	650	
5.	Household Amenity			
5.1	Energy Security		105	
	(1) Electricity Connection	LS		80
	(2) Energy Efficient Choola	5,000 houses		25
5.2	Solar Lantern and Street Light		50	
	- Solar lantern	7,000 no.		20
	- Street light	1,000 no.		30
5.3	Bio-gas Units	1,500 BPL	30	
5.4	Providing Drinking Water	14,166 households	150	
5.5	Community Resource Centre	100 no.	100	
5.6	Access Roads to Hamlet and Bridges		150	
	(1) Access Road	100 km		90
	(2) Hanging/Small Bridge	24 no.		60
5.7	Sanitation Facilities	5,000 households	75	
6.	Project Infrastructure and Health Care Facilities			
6.1	Project Infrastructure Development		109	
	(1) AHADS Headquarter and Facilities	LS		50
	(2) Infrastructure for Panchayat	26 no.		39
	(3) Vehicles and Furniture	LS		20
6.2	Social Infrastructure Development			
	(1) Health Infrastructure (PHC, CHC, Taluk/District Hospital) - Additional building - Equipment	29	150	100 50
	(2) Education Infrastructure - Infrastructure - Equipment		250	200 50
	(3) Electrification of BPL Household		93	
	(4) Public Sanitation Facilities	100 site	25	
7	Human Resources Development			
7.1	Training		175	
	(1) Training for empowerment	750 programmes		75
	(2) Vocational training for landless tribe			100
7.2	Gender Development		10	
7.3	Education Development		141	
	(1) Laboratory and library for UP and high school	28 school		28
	(2) Improving hostel facilities for tribes	5 new hostel / 22 hostel for upgrading		40
	(3) Literacy programme			40
	(4) Sensitizing teachers on tribal culture			8
	(5) Gurukulam (learning centre in hamlets)			25
7.4	Promotion of Art		4	
7.5	Programme for Sports Promotion		25	
7.6	Health Improvement Programme		30	
	(1) Emergency Support / Disaster Management			20
	(2) Mobile de-addiction and counselling centre			10
7.7	Integrated Child Development Scheme	234 unit	117	
7.8	Publicity and Awareness Programme		30	
7.9	Institutional Strengthening of PIs		60	
8	Monitoring and Evaluation		50	
9	Support to Post Project Sustainability of AWCECOP	LS	400	
10	Project Management Consultancy Services		240	
11	Total 1-10		6,127	

	Components/Intervention	Quantity	Amount (Rs. Million)
12	Contingency Cost		293
13	Total 11+12		6,420
14	Administrative Cost		480
	G. Total		6,900

Source: DPR, April 2014, compiled by the Survey Team

13.3 Detailed Review of DPR

13.3.1 Project Title

As stated in the Section 13.2, environment conservation related activities including land based agriculture allied activities shares 40.1 % of the estimated direct project cost (Rs.6,127 million), and community development related activities accounts 31.6 % of the same. The title of the project used for the DPR, namely, “Wayanad Comprehensive Environment Conservation and Community Development Project” seems to be well reflecting the project component and hence appropriate.

In the course of the Preparatory Survey, the Survey Team follows the same project title with the one used in the DPR to avoid unnecessary administrative confusion. At the project appraisal for funding, however, the project title may be reviewed and revised if necessary so as to reflect the proposed project component appropriately.

13.3.2 Project Goal, Objectives and Approaches

The Survey follows the project goal and objectives indicated in the Request for Proposal for the Survey”, both of which are slightly modified from the ones in DPR. The following table compares the results of DPR with the Survey.

DPR & Survey Comparison of Project Goal, Objectives and Approaches

DPR	Summary of the Review by the Survey Team
1. Project Goal Enhance livelihood security and social capital for BPL people	i) The Project may contribute to achieving the long term goal if the activities are to cater for the actual needs of the BPL households. However, enhancing “social capital” would require structural changes in the society. Without challenging status quo, this goal cannot be attained. The adverse implication to the BPL households need also be considered. Although it may be relevant but the goal is beyond the scope of the Project. ii) A revision is proposed as per the Request for Proposal for the Survey: “To contribute the improvement of the livelihood and balanced socio-economic development in Wayanad”.
2. Objectives of Project Enhance that most vulnerable and marginalised people in rural and urban areas have great access to productive assets, decent employment, skill development, social protection and sustainable livelihoods based on sustainable ecosystem	As per the Request for Proposal for the Survey, which indicates twin objectives as follows: - Improvement of livelihood and living conditions focusing on BPL households - Restoration of ecosystem
3. Approaches	

<ul style="list-style-type: none"> - Apply a completely participatory approach through institutionalising Grama Sabah into democratically constituted implementation body (<i>Vikasana Samithies</i>: VS) - Using micro watershed maps for formulating an area based development plan (micro plan) - Designing intensive inputs on capacity building of the implementing bodies - Establishing implementation arrangement to link VSs to their respective Grama Panchayats 	<ul style="list-style-type: none"> i) The first objective stated above is focusing on BPL households, who are spread across the Wayanad as indicated Chapter 6. Thus area based development approach is inappropriate to achieve the first objective. ii) The Survey on the present conditions in Wayanad revealed that “restoration of ecosystem” is applicable to the forestlands in a limited way in areas and in sector of interventions, for which area based approach is applicable and VSSs/EDCs are to be implementing bodies. iii) As is evident from the above, two objectives require respective implementing bodies or project beneficiaries, and no organic integration between the two objectives. iv) Considering the situations stated above, approaches proposed in DPR need to be revisited.
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Source: JICA Survey Team (2014)

13.3.3 Agriculture/ Livestock Related Activities

The results of review of agriculture/ livestock relating component proposed in DPR are given in the table below. As seen in the table, the land based livelihood activity needs to be revisited as it was found that the land holding size is very minimal among the expected beneficiaries. On the other hand, the findings from the Survey suggest that, in the context of Wayanad, activities relating to livestock are relevant.

DPR & Survey Comparison of Agriculture/ Livestock Related Activities

DPR	Summary of the Review by the Survey Team
2.1 Land based activities	
(1) Land and agriculture development for food and livelihood security	<ul style="list-style-type: none"> i) Results of farmer household survey (Volume III Attachment III 5.1) show that most of BPL owns marginal size of land on hillside or sloped land. Although the area of farmland is very limited, it is being efficiently utilised as tree based home garden, with timber, fruit trees and cash crops. There may not be excess space to promote further optimum utilization of land. ii) As mentioned above, BPL owns their land only in upper land and they don't have access to lowland where paddy could be cultivated. In this condition, promotion of paddy field may not be relevant. iii) Alternative activities that could be proposed is fodder and hey production in combination with livestock rearing, which is discussed below.
- Optimum utilization of land	
- Paddy cultivation	
(2) Structural measures for soil and water conservation	<ul style="list-style-type: none"> i) As mentioned above, the farmland for BPL is efficiently used and well managed, and land degradation or soil erosion is not common. ii) Considering the current cropping system on the marginal size sloped land, installation of drainage or irrigation facilities may not be required.
- Soil and water conservation measure	
- Drainage line treatment	
- Minor irrigation structures	
2.2 Livelihood Improvement Activity	
(1) Livestock development - Support of milching cows for 10% BPL households	<ul style="list-style-type: none"> i) Livestock rearing is possible to be done in a limited homestead yards, so that it is an activity applicable for BPL households with marginal size land and that it is suitable for those who are difficult to go out for hard labour work. ii) Cattle rearing is a prominent activity because of high milk demand and well established marketing system in Wayanad. In the project, application for existing schemes, financial support for initial input, and technical support will be proposed.
(2) Sericulture development	<ul style="list-style-type: none"> iii) Although sericulture department is established in Wayanad, there are no data available for production of sericulture. No evident potential of sericulture in Wayanad was assessed.

Source: Component is based on Revised DPR (April, 2014); Review comment by JICA Survey Team

13.3.4 Income Generation/ Livelihood Improvement

Revolving fund to be jointly managed by the Kudumbasree is proposed to be allocated in DPR. As reviewed in **Volume III Annex 8**, an attempt made by AHADS to entrust the management of Corpus

Fund to Kudumbasree was not successful. Thus, this idea needs to be carefully reviewed and revisited. Although the revolving fund would constitute an important element in micro enterprise development, its management modality needs to be worked out carefully for the sustainability of the fund. Additional observation was also made that many of the proposed activities can be done through convergence which would not incur large funding from the Project.

DPR & Survey Comparison of Income Generation/ Livelihood Improvement Component

DPR	Proposed Amount Rs. (in million)	Summary of the Review by the Survey Team
2.3 Income Generation Activities		
- Agriculture Marketing - Procurement Centres Offices		i) As discussed in the previous Sub-section 13.3.1 , paddy farming and allied activities are not relevant to the Project because of the limited landholding size of BPL households.
(1) Training	30	i) Skills training in agriculture marketing and allied activities may be relevant in some cases. ii) The Survey Team sees many of the training activities can be done through convergence with Agriculture Department, KVK and Tamil Nadu Agriculture University.
(2) Revolving fund for tribes – jointly manage with Kudumbasree	180	i) Providing loan will not be appropriate as many of the BPL households in Wayanad are likely to be in debt. Under this project, loan should be disbursed along with the technical training and handholding so that the beneficiaries could gain capacity to earn on their own. ii) Although, revolving fund will be a part of the intervention, working with Kudumbasree may not be the way forward as seen in lessons learned from Attappady. The scale of lending and modality proposed by the Survey Team is given in Section 16.2 .
3.5 NTFP		
- Training for scientific collection of NTFP	5	i) NTFP sector in Wayanad requires organised collection of NTFPs and enhanced value addition.
- Providing Technical Trainings and tools for cleaning, drying, grading and semi processing of raw materials	5	ii) NTFP collection is mostly controlled by the ST Cooperatives and KFWD. FDA in the northern Wayanad has its own processing plant for honey. To achieve the organised collection and value addition, it is necessary to coordinate with the stakeholders and work out the possible opportunities for NTFP development.
- Warehousing	30	iii) KFWD issued a guideline for AVSSs to have a NTFP processing unit. This is a facilitating factor to be considered when planning NTFP development and marketing.
- Engaging experts/ resource persons to convert the semi processed raw materials into value added products	5	iv) Marketing support is also required.
- NTFP based processing units, promotion and marketing	55	
7.1 Training		
(1) Training for empowerment	75	i) 750 programmes are proposed in DPR. Subjects and number of the programme should be carefully selected and decided to be relevant to the proposed interventions.
(2) Vocational Training for Landless Tribal	100	
7.2 Gender development		
- Mothers Group	10	i) Objectives of Mothers’ Group are to tackle social issues like alcoholism. Same was done in Attappady, yet the groups did not sustain themselves and some of them were not accepted by the community. ii) It would be more effective to support women through tangible interventions including de-addiction centre, counselling and livelihood support for their empowerment and transformation in the society.
7.3 (3) Literacy Programmes		i) Convergence with the State Literacy Mission.
7.3 (4) Sensitising teachers on tribal culture	8	i) Most activities may be done through convergence.
7.3 (5) Learning Centre in Hamlets	25	i) Convergence with State Literacy Mission, Mahila Samakiya and ICDS(Anganwadi Centre as venue)

DPR	Proposed Amount Rs. (in million)	Summary of the Review by the Survey Team
7.4 Promotion of Arts	4	i) Convergence may be sought with the relevant agency.
7.5 Sports Promotion	25	i) Convergence may be sought with the relevant agency.
7.6. (2) Health Mobile De-addiction and Counselling Centre	10	i) New project has been launched in the District. ii) Convergence may be considered.

Source: Component is based on Revised DPR (April, 2014); Review comment by JICA Survey Team

13.3.5 Natural Environment Improvement

The natural environment related component in DPR such as “Restoration of environment/watershed conservation” were reviewed carefully to identify the needs of the project intervention by the proposed activities.

Wayanad is much blessed with such natural conditions as annual precipitation and soils (**Chapter 5**). Owing to rich natural conditions and good management, vegetative conditions in the area are maintained well in both forestlands and private plantation and croplands as well. It is therefore not relevant to propose large scale intervention on forest rehabilitation as proposed in DPR. On the other hand, man-animal conflicts in the fringe areas of the forestland are significant and in need of taking countermeasures to the conflicts.

The results of the review are summarized in the following table.

DPR & Survey Comparison of Natural Environment Improvement

DPR	Target	Summary of the Review by the Survey Team
3.1 Augmentation/restoration for natural regeneration:	7,000 ha	i) The target area indicated in DPR could not be verified in the field survey. No tangible basis was found to justify the target. ii) No substantial needs for restoration and conservation of natural vegetation were confirmed in the field survey iii) No open areas or degraded vegetations that require plantation or ANR were identified in the field (Chapter 9).
3.2 Biomass conservation and fire protection: Target is open forests with canopy cover less than 40%	17,500 ha	
3.3 Bamboo and rattan production:	2,000 ha	
3.4 Soil and moisture conservation: Appropriate species will be planted along the water course to stabilize the banks.	13,750 ha	
3.5 Non-timber forest produce: - Enhancement of sustainable technologies of NTFP collection to target tribal people	Tribal community	i) Information on the target species of NTFP is not presented in DPR. ii) Needs are to be confirmed for enhancement of the technologies for sustainable NTFP collection. iii) However potentials of NTFPs to support livelihoods of the community were confirmed through VSS/EDC review (Chapter 9).
3.6 Medical plants (Ayuvedic medicines): - Identification of medical plant conservation area (MPCA) - Conservation of rare, endangered and threatened (RET) species. - Enhancement of enrichment planting training for “scientific collection”.	No tangible target	i) Information on the tangible target is not indicated in DPR. ii) However potentials of medical plants to support livelihoods of the community were confirmed through VSS/EDC review (Chapter 9).
3.7 Ecotourism: - Establishment of “ethnic model village”:	Tribal community	i) Proposed components seem to be just an initial idea thus needs to be further studied and embodied

Source: Component is based on Revised DPR (April, 2014); Review comment by JICA Survey Team

13.3.6 Community Infrastructure Development

As discussed in **Chapter 10**, it was found that such infrastructures as (i) the housing, (ii) the drinking water facilities, (iii) the facilities & equipment for the health centres and schools, (iv) the office building of the Project Implementation Office at District level, and (v) the road & bridge are in need of

construction or renovation. As for the (i) and (ii), however, administrative & technical guidance during both the planning and the construction stages is prerequisite to achieve the project objective successfully. With such support, the effectiveness of the project and the sustainability after the project could be secured.

DPR & Survey Comparison of Community Infrastructures

DPR	Target	Summary of the Review by the Survey Team
4. Housing Development-THDP	1,625 houses	i) Requirement of housing development is pretty high. But the quantity of target houses needs to be revisited. ii) To select the appropriate beneficiaries of the housing, application procedures are to be well designed/implemented. iii) In particular, selection criteria need to be met with the vulnerable who has the real needs of the housing. iv) Another consideration required for housing development plan is provision of the administrative & technical guidance in advance to and during the construction period.
5. Household Amenity		
5.1 Energy Security - Energy Efficient Choola	5,000 houses	i) Convergence may be sought.
5.2 Solar Lantern and Street Light - Solar lantern - Street light	7,000 no. 1,000 no.	i) Needs are not so high. ii) Convergence may be sought.
5.3 Biogas Unit	1,500 BPL	i) BPL households are mainly landless or marginal landholder. ii) Hence, this component is not relevant.
5.4 Providing Drinking Water	14,166 households	DPR stated that: (a) 14,166 households are under acute shortage of drinking water, though source of the number is not made clear; (b) for the last 10-15 years, the government has implemented a number of drinking water supply schemes, many of which are now dysfunctional with urgent maintenance/modification; (c) in target selection, main focus will be placed on utilisation /maintenance of the existing water supply systems. i) Three drinking water supply schemes are on-going (Chapter 10). ii) Drinking water of the existing water supply facilities are generally contaminated by bacteria. (Chapter 10). iii) Improvement of the water quality is urgent issues to be overcome. iv) Regular maintenance system of the existing facilities needs to be established in parallel with the on-going schemes.
5.5 Community Resource Centre	100 no.	i) There were few Grama Panchayat offices that recognised the needs of the community centres (Chapter 10). ii) The community centre could play an important roles for the participatory implementation of the projects. iii) Convergence may be sought.
5.6 Access Road to Hamlet and Bridges		i) No detailed information is given in DPR on this intervention. ii) However, needs of the access roads and hanging/small bridges were verified by the Survey Team (Chapter 10).
(1) Access Road	100 km	iii) Considering that lack of funds for maintenance/ repair is ordinary occurrence, construction of durable concrete/steel structures is desirable.
(2) Hanging/Small Bridge	24 no.	
5.7 Sanitation Facilities	5,000 households	i) Convergence may be sought, if necessary.
6.1 Project Infrastructure Development		
(1) AHADS Headquarter and Facilities	LS	i) Creation of new fixed asset in addition to the huge assets in Agali is not relevant. Difficulty in securing maintenance funds after project completion is evident in the case of AHADS headquarter in Agali. ii) In Wayanad, it is realistic to rent office space for PMU of AHADS-CCPRM.
(2) Infrastructure for Panchayat	26 no.	i) Not relevant.

DPR	Target	Summary of the Review by the Survey Team
(3) Vehicles and Furniture	LS	i) To be considered for PMU.
6.2 Social Infrastructure Development		
(1) Health Infrastructure	29 no.	i) Field survey identifies the needs of upgrading medical check and treatment facilities/equipment in CHCs and PHCs as well.
(2) Educational Infrastructure	LS	i) The important components to upgrade the existing lower primary schools are (i) renovation of the existing toilet (building), (ii) construction of additional classrooms (building), (iii) provision of the facilities and equipment for the education and the management.
(3) Electrification of BPL household	LS	i) Convergence.
(4) Public Sanitation Facilities	100 sites	i) Convergence.

Source: Compiled by JICA Survey Team (2014) based on DPR

13.3.7 Support to Post Project Sustainability of AWCECOP

In the DPR, a component of Support Post Project Sustainability of AWCECOP is proposed. However, only cost is raised as lump sum without concrete activities/intervention.

Four years has passed since AWCECOP ceased in March 2010 without taking appropriate phase-out / phase-in activities. Then all staff members involved in AWCECOP were dismissed and hence there is no guarantee whether the staff once fired would come back to AHADS-CCPRM. No data and information is available for the PIs involved in AWCECOP.

Comprehensive survey on the PIs should be conducted at the first step, if this component is to be realised. Consensus should also be built at the community level stakeholders including Grama Panchayats, CDSs of Kudumbasree or ICDS when designing an intervention. It would not be appropriate to design a component that is to be undertaken exclusively by AHADS-CCPRM in view of the post project sustainability. At the same time, basic policies to ensure the sustainable post project should be well developed. Then, proposed activities on this component should be worked out.

13.3.8 Conclusion of the Detailed Review

As explicitly stated in the preceding sections, demographic, socioeconomic and natural conditions of Wayanad differ substantially from the ones of Attapady. It was therefore concluded that the project components proposed in DPR are mostly inapplicable in Wayanad and that project justification is hardly verifiable.

Thus, the Survey Team decided to restructure the approaches and components proposed in the DPR to meet the needs reflecting the currently prevailing administrative and political situations, and present demographic, socioeconomic and natural conditions of Wayanad.

The Survey Team's proposed plan for the Project is presented in the following PART-IV.

PART-IV Proposed Plan

Chapter 14 Project Area and Potential Targets/ Beneficiaries

14.1 Project Area

The project area covers the whole of Wayanad District except Kalpetta Municipality. The district is administratively divided into the following four blocks consisting of 25 Grama Panchayats. Location of respective blocks and Panchayats are shown in **Map 1**. The project beneficiaries will be selected out of the BPL households in the district. The demographic data of the Panchayats are recaptured below.

Administrative Units and Demography in Wayanad

Block	Grama Panchayat	Census 2011				BPL Survey 2009				
		Number of Households (Census 2011)	Population			Number of Families				
			Male	Female	Total	ST	SC	General	Minority	Total
Kalpetta	Kottathara	3,787	8,195	8,475	16,670	1,101	128	473	792	2,494
	Meppady	8,661	18,349	19,436	37,785	791	726	1,086	1,949	4,552
	Muppainad	5,562	11,936	12,654	24,590	453	515	583	1,546	3,097
	Muttill	7,998	17,150	18,131	35,281	1,092	244	879	2,137	4,352
	Padinharthara	5,788	12,592	13,373	25,965	615	450	466	1,401	2,932
	Pozhuthana	4,256	8,854	9,552	18,406	687	281	258	1,033	2,259
	Thariyod	2,734	5,808	5,917	11,725	698	150	234	591	1,673
	Vythiri	4,159	8,815	9,490	18,305	186	397	390	1,078	2,051
Mananthavadi	Vengapalli	2,676	5,735	6,021	11,756	592	152	291	641	1,676
	Edavaka	7,539	16,802	16,863	33,665	977	166	887	1,539	3,569
	Mananthavady	11,376	23,468	24,506	47,974	1,594	620	1,280	2,192	5,686
	Thavinhal	9,257	19,685	20,128	39,813	1,539	416	1,249	2,106	5,310
	Thirunelly	6,902	14,573	15,123	29,696	2,935	200	1,151	964	5,250
	Thondarnad	5,280	11,546	11,596	23,142	1,051	184	606	1,297	3,138
Panamaram	Vellamunda	8,796	20,010	20,617	40,627	1,377	316	640	2,377	4,710
	Kaniyanbatta	7,672	16,739	17,217	33,956	1,294	247	732	2,009	4,282
	Mullankolly	6,929	14,131	14,269	28,400	812	536	1,095	1,533	3,976
	Panamaram	10,334	22,668	22,959	45,627	2,277	254	1,083	2,348	5,962
	Poothadi	9,800	19,633	20,016	39,649	1,728	201	2,504	1,246	5,679
Sulthan Bathery	Pulpally	8,414	16,812	17,139	33,951	1,844	220	1,836	1,250	5,150
	Ambalavayal	8,568	17,214	17,993	35,207	1,383	308	1,268	1,836	4,795
	Meenangadi	8,199	16,624	16,826	33,450	1,686	299	1,381	1,182	4,548
	Nenmeni	11,330	22,929	24,021	46,950	1,828	469	1,924	2,090	6,311
	Noolpuzha	6,510	13,673	14,160	27,833	2,728	147	798	674	4,347
	Sulthan Bathery	10,848	22,342	23,075	45,417	1,269	300	1,417	1,977	4,963
Total		183,375	386,283	399,557	785,840	32,537	7,926	24,511	37,788	102,762

Source: JICA Survey Team (2014) based on Census 2011 and BPL Survey 2009

Within the district, 86,205 ha of forestlands (JICA Survey Team, 2014) extend along the fringe of the district boundary. All the forestlands will be the target area for the natural environment improvement work of the Project. To manage and maintain the forestlands, the Kerala Forest and Wildlife Department (KFWD) established forest management system that constitutes three divisions: namely, North Wayanad Division, South Wayanad Division and Wayanad Wildlife Division. These divisions are further divided into the following Forest Ranges. Location of the Division and Range are shown in **Map 7**.

Forest Management System

Forest Division	Forest Range
North Wayanad Division	Begur
	Peria

Forest Division	Forest Range
South Wayanad Division	Mananthavady
	Kalpetta
	Meppady
Wayanad Wildlife Division	Chedleth
	Tholpetty
	Kurichiat
	Sulthan Bathery
	Muthanga

Source: JICA Survey Team

14.2 Potential Targets/Beneficiaries of the Project

A number of interventions to support livelihoods of the BPL households are being implemented in Wayanad district through GoI and GoK. Many of such interventions are planned in the Five-year development plan, others are planned to respond to the requirement from Grama Sabha. On the other hand, such interventions are not sufficient to help all the BPL households equally. In addition, the heterogeneity in the livelihood issues and conditions faced by the BPL households demanded the government to respond to their diverse needs, which exist as in the form of isolated islands of households but not as a substantial area that can be covered by a blanket approach.

In order to address the differing requirement from community to community and from social group to group, the Project will identify the project beneficiaries/ participants out of the BPL households in the 25 Grama Panchayats in Wayanad district by adopting the criteria designed for each project component/ sub-component. The identification and selection of beneficiaries/ participants will be done at Grama Sabha or at Oorukoottam by the consensus of the constituting members of each body. Prior to the process of beneficiary selection, the willingness of the Grama Sabha or Oorukoottam shall be confirmed by the Implementing Agency as it will provide the facilitating environment for the project implementation and would lead to the benefits of the Project beneficiaries through effective and efficient project implementation.

(1) Beneficiary Selection Criteria for Livelihood Activities (Non-Dairy)

As discussed in the preceding chapters, BPL may not be the only appropriate criterion to identify beneficiaries of the proposed Project, for its variations in socio-economic background and in the level of benefits already received from the on-going interventions. Thus, the following criteria may be proposed in addition to the basic selection criterion of the BPL household. The geographical proximity between the beneficiary households and the potential location of CFCs to be established in a cluster shall be considered when finalising the beneficiary selection as the accessibility to the CFCs may affect the level of participation by the beneficiaries.

Proposed Beneficiary Selection Criteria for Livelihood Activity Component

Criteria	Selection
i) An adult man and woman who cannot take part in manual labour like MGNREGA but can do light work ii) De-facto/ De-jure female head of household iii) Widow iv) Unwedded Mother v) An adult man and woman whose <u>unemployed</u> period more than six months in the preceding 12 months (excluding MGNREGA)	At least one of the selection criteria needs to be matched.
vi) Have a keen interest in a business activity vii) Have a willingness to work as a group	Both criteria need to be satisfied.
Remarks: Selection to be done in a public meeting such as Grama Sabha / Oorukoottam or any other form of People's Institution placed by the Project.	

Source: JICA Survey Team (2014)

(2) Beneficiary Selection Criteria for Livelihood Activities (Dairy)

In principle, the beneficiary households will be identified based on the criteria for livelihood activity component. However, due to the nature of the activity, certain conditions are to be met. Such conditions are given below:

- Those who own minimum 4 cent (0.004 ha) of land;
- Those who can dedicate 5 hours per day for cattle rearing, or those who's other household members can support a total 5 hours as a household worker;
- Those who live in an area where natural fodder is easily available, or those who can get paddy straw or crop residue; and
- Those who have easy access to water.

(3) Peoples Participants for Natural Environment Improvement Activities:

Natural Environmental Improvement activities are proposed to be done through VSS/ EDC. The selection criteria of participating VSS/ EDC are outlined in the following table.

Different from livelihood-related activities, natural environment improvement takes area-based approach in identifying the target of the activities. Sub-components focus on the areas where issues and problems are evident. VSS/EDC located within such area will be selected as participating VSS/ EDC. Other than such physical condition, the attitudes among the members of VSS/EDC are taken into account in the selection process. Overall criteria applied to all sub-components under natural environment improvement component are as summarised below. Further details are given in **Section 16.2.4**.

Proposed Criteria to Select Target VSSs/EDCs

Criteria	Selection
Physical conditions: 1) To be located adjacent the area/spot where the issues and problems as described in Section 11.4.2 are taking place or there are the potentials to develop and improve the utilization of forest resources. The distance between the community and the spots should be in principle within the distance reachable by walking less than one hour. 2) To be affected by the issues and problems thus suffering from substantial damages on the properties/resources in the community	At least one of the selection criteria needs to be matched.
Attitude of the VSSs/EDCs toward the Project activities: 1) To have a keen interest in addressing the issues/problems or developing the potentials to utilize the forest resources. 2) To have a willingness to work as a group and participate fully in the Project activities	Both criteria need to be satisfied.
The selection will be done in the following two steps. First step is to select the target VSSs/EDCs applying the physical conditions. This step will be done by the AHADS-CCPRM staffs and FD personnel to prepare "long list" of the target VSS/EDC. The second step is to examine the attitude of long listed VSS/EDC members.	

Source: JICA Survey Team (2014)

(4) Peoples Participants for Community Infrastructure Development:

People's participation for community infrastructure development is rather limited because of the characteristics of the proposed interventions. Details of the people's participation are given in the subsequent **Section 16.4.5**.

(5) Beneficiaries for Housing Component:

As seen in **Chapter 10**, several housing schemes have already been implemented in Wayanad. All such schemes are given in the form of subsidy and the amount given is not sufficient to complete the construction. For the case of the Project however, full support up to completing the housing work is conceived. To this end, the following criteria are proposed to be included in the selection of the beneficiaries.

Proposed Selection Criteria for Housing Component

Criteria	Selection
Eligibility Criteria: i) A household lives in a thatched hut ii) Can take part in construction of own house	• Both criteria need to be met.
Priority Criteria: i) De-facto/ De-jure woman household ii) Unwedded Mother iii) Widow	• A household that any one of the priority criteria is applicable will be considered with priority.
Exclusion Criteria: i) A household having been a beneficiary of housing scheme previously ii) Not any one of the household member is financially supporting away from home.	• Even above criteria are met, a household that any one of the exclusion criteria is applicable shall be considered none-eligible for the housing component of this project.

Source: JICA Survey Team (2014)

Chapter 15 Project Rationale

15.1 General

The project components and activities are proposed on the basis of the following rationales: 1) relevance to the development policy of India and Kerala, 2) a need for enhancing livelihoods among the vulnerable in Wayanad, 3) mitigating the effects of changing environment, and 3) relevance to Japan's ODA policy.

15.2 Development Policy of India and Kerala

In the 11th Five-Year Development Plan period (2006-2011), GoI aimed at the higher and inclusive growth and achieved remarkable economic growth. However, such waves of economic development did not benefit every citizen of India equally. Such reflection on the previous planning period has led the GoI to mandate “inclusive and sustainable growth” in the National 12th Five-Year Development Plan (2012-2017). Under this policy, GoI planned a range of interventions to bring about poverty reduction, improved health, better access to schooling and higher education, improved education standards and skills development, and improved social infrastructures like water, electricity, roads, sanitation and housing¹. GoI placed a particular importance to provide assistance towards SC/ ST, OBC, women and children, and other minority and excluded groups.

In line with the national 12th Five-Year Development Plan, Kerala has developed the state level 12th Five-Year Plan. In FY 2014-15 Budget Speech, Kerala indicated the allocation of budget outlay of 31% for the Social and Community Services and 27% increase was shown in the budget allocation for the rural development sector despite the financial deficit in the state budget². In another policy document, “Kerala Perspective Plan - Vision 2030”, identifies the need to rectify the inequality in economic status. GoK also increased its allocation to Service Sector, health sector in particular in 2012-13 amounting Rs. 22,427.3million, of which 57.07% has been allocated to Grama Panchayats, which is an indication of GoK to accelerate the social development by involving community members (Economic Review 2013, Kerala State Planning Board).

The Project is highly relevant in the above and will contribute to improving livelihoods of the poor in a participatory manner.

15.3 Widening Economic Gaps

Although the economic indicators have improved in the recent 10 years in Kerala, the gap in economic conditions has widened in Kerala. As reviewed in **Chapter 6**, the Gini Coefficient of Kerala was estimated to be 0.4 for 2009-10 in the rural area (Kerala Perspective Plan Vision 2030), which is the highest among the states in India. Within Kerala, this may be understood by reflecting on the GDDP of the districts.

The GDDP at current price of the District in 2012-13 was Rs. 77,234 which is 23% less than that of Kerala amounting Rs. 99,977 and the ranked 13th out of the 14 districts in Kerala. These figures suggest the sluggish economic development in the District. In addition, Wayanad has the highest proportion of BPL households (57.55%) amongst the districts in Kerala (BPL Survey 2009). In such context, the Project holds relevancy in promoting livelihoods improvement and reducing the economic gap.

¹ Faster, Sustainable and More Inclusive Growth: An Approach to the Twelfth Five Year Plan (2012-17). Government of India. Planning Commission. October 2011.

² Budget Speech 2014-15. K. M. Mani, Finance Minister. 24th January 2014. Government of Kerala.

15.4 Existence of the Vulnerable Left Behind

The Survey Team has observed that a number of interventions targeting BPL households are already placed in the District by GoI and Kerala. As discussed in the preceding chapters, the livelihood of BPL households in the District is largely daily wage based. Some categories of BPL households are constantly vulnerable throughout the year whereas others experience seasonal or occasional vulnerability depending on the availability of employment opportunities. Female heads of households and unwedded mothers, men who are not fit to work as labourers face constant vulnerability as their earning capacity is limited. On the other hand, seasonal vulnerability is seen in almost all the BPL households to certain extent as the income fluctuates according to the availability of employment opportunities.

On-going schemes include MGNREGA, Ashraya of Kudumbasree, and ration through public distribution system provided safety net for BPL households of various categories. Various loan schemes also provided cash for the BPL households to be spent to meet the daily requirement. However, such opportunities have not been equally benefitted all the BPL households.

The Survey Team identified a need to respond to the un-met livelihood issues by the on-going interventions. In the Project, the livelihood activities are designed to provide the livelihood options for those who have limited access to employment and to minimise the fluctuation of income.

15.5 Changing Ecology and Implication to the Communities

In general, Wayanad is endowed with nature. No evident forest degradation has been identified. On the other hand, the change in environment has manifested itself in the form of conflicts between wildlife and the human beings while the man-made forest fire has damaged the forest resources that could provide alternative means of livelihoods for the communities in the forest fringe areas.

Surrounded by nature, many communities live close to nature in the District. Some communities live inside or in the fringe area of the forest. The changes in the climate have affected the habitat of wildlife to drive them towards the human settlement area for food and water. Thus, the communities nearby the forest are increasingly succumbing to the damages to human lives and the productive assets caused by the wildlife. The number of such incidents has been on the rise. The number of cases applied for compensation has increased from 105 incidences in 2003-2004 to 543 cases in 2009-2010 in the South Wayanad Forest Division alone. The financial compensation paid by the Forest Department between 2003-2004 and 2009-10 was Rs. 10 million.

Such damages are detrimental to the vulnerable rural communities nevertheless any amount of financial compensation would never be enough for the loss of human lives and productive assets. In this context, it is urgent to implement appropriate interventions, as proposed under the natural environment improvement component, to restore the habitat for the wildlife to prevent such recurring damages.

Apart from the damages caused by the wildlife, more direct damages brought by the forest fires constantly give negative impacts to the natural forests. Fires in the forest land tend to outbreak in the dry season, namely from December to May. It incidentally occur when the community members are working in or nearby the forest using fire, such as honey collection, land preparation in the enclosures, any other dairy activities using fire. It is said that around half of total incidents of fires are caused by such human activities, which could be mitigated through fire watching, training of fire prevention, etc.

In need of implementing the mitigation measures, community participation would be a key to the success. This has been a mandate of FD which has issued a PFM Guideline. Wayanad district has 35 VSSs and 14 EDCs that were organised during the implementation of the Participatory Forest Management Project funded by the World Bank in 1998. These PIs still exist, nevertheless their organisational capacity did not allow them to manage the forest areas on their own. This project has a component of Natural Environment Improvement, under which their capacity development and active

involvement in executing the works. This contributes FD to implement the PFM Guidelines and build the capacity of VSSs/ EDCs for sustainable forest and forest resource management.

15.6 Relevance to Japanese ODA Policy

The Official Development Assistance Policy of the Japanese Government (currently under review) gives priority to the Human Security and strengthening the capability of all individuals to attain well being. Further the Country Assistance Policy of JICA for India (2011) mandates the poverty eradication, climate change and environmental conservation as priority sectors. Under the mandates, JICA has extended assistances for the rural livelihood improvement and community infrastructure development as well as participatory forestry management projects across India.

The Project is an attempt to improve the livelihoods of the vulnerable people in the most poverty stricken district in Kerala and to provide interventions to prevent further ecological damage and preventative measures against further conflicts between the nature and human being. These objectives are in line with the ODA policy of Japan and JICA.

Chapter 16 The Project

16.1 Project Objectives and Basic Approaches

16.1.1 Overall Goal and Project Objectives

The overall goal of the project is “to contribute to the improvement of the livelihood and balanced socio-economic development in Wayanad through improvement of livelihood and living condition of BPL households and restoration of ecosystem”.

The Project objectives proposed are the following three:

- i) To improve the livelihood condition of the vulnerable households among BPL households in Wayanad
- ii) To improve the living conditions in Wayanad
- iii) To restore ecosystem in the forestland along with improvement of environmental condition for the livelihoods of the local peoples who are dependent on the forest resources or whose livelihoods are affected by the surrounding natural environment.

16.1.2 Basic Approach to Implementation

In order to achieve the project objectives, the Project will adopt the following approaches to implementation of the project activities.

(1) Non Area Based Approach

As reviewed in the previous Chapters, BPL households are not homogeneous group of people. Their livelihood condition varies between social groups and gender. Especially among the vulnerable households identified as a target group of the project interventions include female headed households, unwedded mothers and also men and women who have not been able to benefit from on-going programmes/ schemes that are targeting BPL households. Such households, in other words, are minority as seen in the socio-economic statistics and live scattered across the district. In this context, the area based approach targeting certain geographical unit such as panchayats or wards would not serve the purpose and not be appropriate in this context. To work with minority households, it would rather be more relevant to select households but not the areas for meaningful interventions.

(2) Community Participation to Ensure Delivery of Benefits and Sustainability

As is evident from the experiences from the implementation of AWCECOP, involving community members in the process of planning, designing, monitoring and evaluation could ensure transparency and the benefits to be delivered to the intended beneficiaries. It is also an empowering process for the community members as they will gain control over their decision, process of implementation and to own the achievements through participating in the project implementation pro-actively. Such community empowerment would also help the Project to achieve the overall goal in the long run.

For the Project implementation, therefore, community participation will be ensured through formation of peoples institutions (PIs) as the implementing bodies of the Project interventions.

Further, an appropriate financial system for PIs will be worked out and adopted from an early stage of implementation so that by the phase out period, PIs by the project initiative will have financial security to sustain themselves in the post project period.

(3) Handholding Support to SHGs

As reviewed in the preceding chapters, income generation activities (IGAs) currently undertaken by SHGs have not necessarily succeeded in securing profits. During the Survey, observed were lack of

technical support in improving or developing products and identifying markets. Many SHG members who were initially involved in the IGAs left the SHGs as the enterprise turned out to be not so profitable. Despite such constraints seen in the field, IGA still provides an alternative means of livelihood and could contribute to reduce the livelihood shocks among the vulnerable BPL households. In an attempt to nurture IGAs as profitable enterprises, the Project will provide sufficient and packaged handholding support for SHGs for technical, marketing and managerial aspects of the enterprise.

(4) Gender Consideration

In Wayanad district, as elsewhere in Kerala and India, certain number of seats are reserved for women in representatives of Grama Panchayat selected through voting at each Grama Sabah and executive committee members of VSSs/ EDCs. As women are recognised as a key in households to attain well being of the entire household, SHGs are being promoted among women and ration cards will be issued for them in the very near future to ensure the ration to reach the household members. GoI financial assistances target women as a receiver of such assistance irrespective of her being a head of household or not.

Under such women centric approach in service delivery for the poor households, men who are unable to take part in the work as they would be expected are left without any assistance and thus, women are bearing an additional responsibility in earning. The Project will also support such male BPL household members who are unable to take up the manual work to take up IGAs.

Furthermore, alcoholism among men and women is seen in Wayanad, which negatively impacts the intra-household dynamics. De-addiction centres and family counselling services are available in Wayanad district. Thus, such issues will be addressed through convergence. This will help both men and women to work towards well-being of the household.

(5) Holistic Approach to Livelihood Improvement to the Vulnerable through Convergence

As seen in the preceding **Chapter 7**, the weakness of the target group especially for the livelihood component does not derive only from the lack of employment opportunities. Some are lacking literacy skills. Many have to borrow money from others to meet their household expenses, which apparently they will have to repay. Some are suffering from the problems associated with alcoholism.

These issues require long term interventions to be dealt with, and many interventions are already being implemented by the government but people have not always benefited from them.

The Project will coordinate with the stakeholders and facilitate the linkage between the project beneficiaries and relevant programmes and schemes. For instance, Kerala State Literacy Mission has been implementing literacy and bridge programmes to provide learning opportunities. De-addiction centres are already established in Wayanad, where the people affected by alcohol can seek help.

(6) Embedded Phase-Out/ Phase-In works for Ensured Sustainability

Phase-Out and Phase-In activities cannot be achieved within a year or two. It needs to be planned early and the prior capacity development of the community level institutions would be critical. It is also important for the project to maintain certain distance from the communities in view of the phase-out stage since the beginning.

As an exit strategy, the project will have extensive capacity development activities for the PIs including hand holding. In this way, by the time of the Phase-Out/ Phase-In stage of the project, they will be able to sustain themselves.

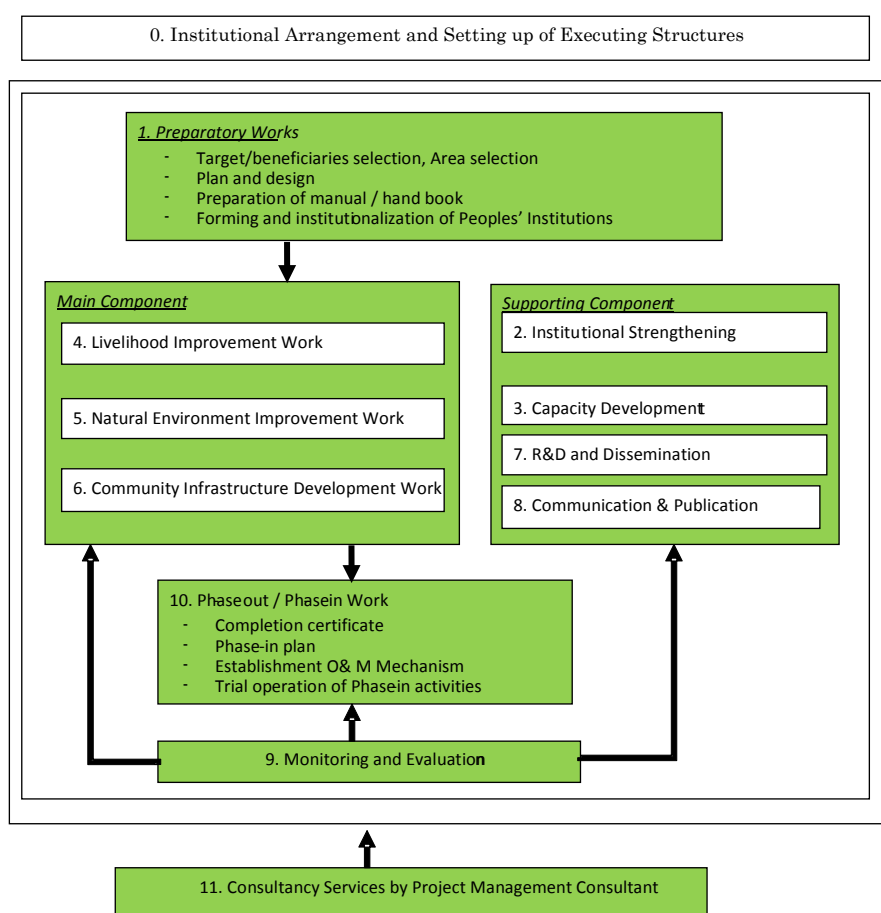
16.2 Project Components

16.2.1 Overview of the Project Components

(1) Project Components

The following diagram shows an overview of the proposed project components. The project components are largely divided into:

- i) Institutional arrangement and setting up of executing agency;
- ii) Preparatory work
- iii) Main component
- iv) Supporting component
- v) Phase-out / phase-in work
- vi) Monitoring and evaluation; and
- vii) Consultancy services by Project Management Consultant



Overview of the Project Components

Source: JICA Survey Team (2014)

In order to materialize the project objectives under the present conditions in Wayanad described in **Chapter 2**, main components proposed consist of three components; namely i) livelihood improvement work, ii) natural environment improvement work and iii) community infrastructure development. The livelihood improvement work is planned to benefit the vulnerable of the BPL households through IGA development, while natural environment improvement work will include a) mitigation of human-animal conflict, b) eco-restoration and c) VSSs/EDCs development, which will be implemented by VSSs/EDCs members. As for the community infrastructure development,

proposed interventions are composed of a) housing work for the vulnerable, b) access roads and small/suspension bridges to improve connectivity of local peoples residing colonies/hamlets, c) renovation of school toilet, and d) upgrading medical care equipment for CPCs and PHCs.

As is self-evident stated above, the three components are likely independent each other and little organic integration are found among the three. Preparatory work therefore, needs to be made for the respective components separately. Likewise, supporting components and phase-in works are to be implemented separately for each of the components as described below.

(2) Main Purposes of the Project Components

The main purposes of each component are summarised below:

Main Purposes of the Project Components

No	Component	Main Purpose
0	Institutional Arrangement and Setting up of Executing Agency	<ul style="list-style-type: none"> To establish an adequate organization structure for PMU of AHDAS-CCPRS To recruit/deploy staff of PMU To establish PMU office To form authorities in AHADS-CCPRM
1	Preparatory Work	<ul style="list-style-type: none"> To select target/beneficiary selection To select target intervention areas To develop plan and design To prepare necessary manuals / handbooks To form and institutionalise PIs
2	Institutional Strengthening	<ul style="list-style-type: none"> To fix working environment of PMU and PIs for the smooth and effective project implementation
3	Capacity Development	<ul style="list-style-type: none"> To enable the project PMU and field level staff to implement the project activities following project specific modalities To enable PIs to acquire skills and knowledge required to implement the project activities To create awareness/ understanding among the stakeholders towards the Project for creating an enabling environment for the project implementation
4	Livelihood Improvement Work	<ul style="list-style-type: none"> To provide alternative sources of income to mitigate the livelihood shocks among the vulnerable To help the vulnerable households to manage household economy To facilitate linkage between the vulnerable and various schemes and programmes
5	Natural Environment Improvement Work	<ul style="list-style-type: none"> To mitigate the human-animal conflict in/around the Wildlife Sanctuary To restore the forest ecosystem through preventing wildfire To develop the NTFP production and businesses in a sustainable manner To develop the potentials Eco-tourism through improving the tourism infrastructures and building the capacity of nature guides
6	Community Infrastructure Development Work	<ul style="list-style-type: none"> To improve living condition of the vulnerable To improve accessibility of local peoples residing colonies/hamlets To improve sanitary condition of lower primary schools To upgrade medical check and treatment conditions of CHCs and PHCs
7	R&D and Dissemination	<ul style="list-style-type: none"> To generate useful technologies and knowledge for the project implementation To obtain first hand data through ante, mid-term and post surveys for the project impact evaluation
8	Communication & Publication	<ul style="list-style-type: none"> To enhance awareness of the public in Wayanad and Kerala as

		well concerning the project activities and their benefit, output, expected impact, etc. <ul style="list-style-type: none"> To disseminate importance of the project interventions and ferment public's sympathy to the project
9	Monitoring and Evaluation	<ul style="list-style-type: none"> To understand physical/financial progress and issues/problems of the Project in timely manner so that decision making by PMU could be appropriate and effective. To evaluate the impact of the Project
10	Phase-out / Phase-in Work	<ul style="list-style-type: none"> To develop sustainable mechanisms for PIs including involvement of government agencies relevant to the Project
11	Consultancy Services	<ul style="list-style-type: none"> To provide technical and managerial support for effective and smooth implementation of the Project

Source: JICA Survey Team (2014)

(3) Work Quantity of the Project

Work quantity of each component of the Project is summarized below.

Outline of Indicative Work Quantities for the Proposed Works

Project Works				Work Quantity	
1	Preparatory Work				
	1.1	For Livelihood Improvement Work			
		(1)	Formation of PIs	300	SHG
		(2)	Formulation of IGA development plan	1	l.s.
	1.2	For Natural Environment Improvement			
		(1)	Institutionalization of new VSSs/EDCs	10	VSS/EDC
		(2)	Institutionalization of existing VSSs/EDCs	49	VSS/EDC
	1.3	For Community Infrastructure Development (housing)			
		(1)	Identification of beneficiary households (HHs)	1,000	HH
		(2)	Plan and design	1,000	house
		(3)	Formation of working group	1,000	group
	1.4	For Community Infrastructure Development (access roads)			
		(1)	Site selection (assumed average length= 250 m)	720	sites
		(2)	Plan and design	180	km
		(3)	Formation of working groups	720	group
	1.5	For Community Infrastructure Development (small/suspension bridges))			
		(1)	Site selection	50	bridge
		(2)	Plan and design	50	bridge
	1.6	For Community Infrastructure Development (school toilet renovation)			
		(1)	Selection of target schools	25	LP
		(2)	Plan and design	25	LP
		(3)	Formation of working groups	25	group
	1.7	For Community Infrastructure Development (medical care equipment)			
		(1)	Prepare required equipment list	25	CHC/PHC

Project Works				Work Quantity	
	1.8	For Construction of VSS/EDC offices			
		(1)	Identification target VSSs/EDCs	49	site
		(2)	Plan and design	20	office
	1.9	For Construction of Interpretation Centre for Eco-tourism			
		(1)	Site selection	10	site
		(2)	Plan and design	10	centre
	1.10	For Construction of Cluster Facility Centre			
		(1)	Site selection	75	site
		(2)	Plan and design	75	CFC
2	Institutional Strengthening				
	2.1	Procurement of furniture/ facilities/equipment for PMU		1	set
	2.2	Construction of VSS/EDC offices		20	office
	2.3	Construction of CFCs		75	CFC
	2.4	Procurement of equipment/furniture for VSSs/EDCs		20	set
	2.5	Procurement of equipment/furniture for CFCs		75	set
3	Capacity Development				
	3.1	Training for PMU staff		1	l.s.
	3.2	Training for SHGs		350	SHG
	3.3	Training for VSSs/EDCs		59	VSS/ EDC
4	Livelihood Improvement Work				
	4.1	IGA development		30	cluster
	4.2	Product development		7	year
5.	Natural Environment Improvement Work				
	5.1	Mitigation of Human-animal Conflict			
		(1)	ANR of understory vegetation (for 5 years)	1,280	ha
		(2)	Water post development	160	site
		(3)	Elephant proof trench/wall/fence	214.5	km
	5.2	Eco-restoration			
		(1)	Fire line management (for 5years)	100	km
		(2)	Procurement of fire fighting equipment	59	set
	5.3	VSS/EDC Development			
		(1)	NTFP development	10	VSS
		(2)	Eco-tourism development	10	VSS/ EDC
6.	Community Infrastructure Development Work				
	6.1	House Construction		1,000	houses
	6.2	Access Road Construction		100	km
	6.3	Small/Suspension Bridge Construction		50	bridge
	6.4	Renovation of School Toilet		25	LP

Project Works			Work Quantity	
	6.5	Upgrading Medical Care Equipment	25	CHC/PHC
7.	Research & Development and Dissemination			
	7.1	Enhancement of IGA Development	5	years
	7.2	Improvement of ANR of Understory Vegetation	5	years
8.	Communication and Publication			
	8.1	Newsletter, Reports, leaflet, Brochure, website development,	1	l.s.
9.	Monitoring and Evaluation			
	9.1	Baseline survey, annual review, Audit (statutory, social audit)	1	l.s.
10.	Phase-out / Phase-in Work			
	10.1	Phase-in Plan for IGA-SHG	1	l.s.
	10.2	Phase-in Plan for VSS/EDC	1	l.s.
11.	Consultancy Services		8	years

Source: JICA Survey Team (2014)

16.2.2 Preparatory Works

(1) Institutional Arrangement and Setting Up of Executing Agencies

The required activities under this headline are those prerequisite before commencing preparatory works, and need to be conducted within one year period by the state government immediately after concluding the loan agreement for the Project.

The activities included are summarised below:

Institutional Arrangement and Setting Up of Executing Agencies

Works to be Done Prior to Commencement of the Preparatory Works of the Project
1. Development of structural organization of AHADS-CCPRM
2. Preparation of operation manual for PMU of AHADS-CCPRM
3. Forming Project Advisory Committee
4. Posting deputation positions of AHADS-CCPRM
5. Recruiting staff of AHADS-CCPRM
6. Arrangement of PMU office by rent
7. Procurement of Project Management Consultant

Source: JICA Survey Team (2014)

(2) Preparatory Works for Livelihood Improvement Work

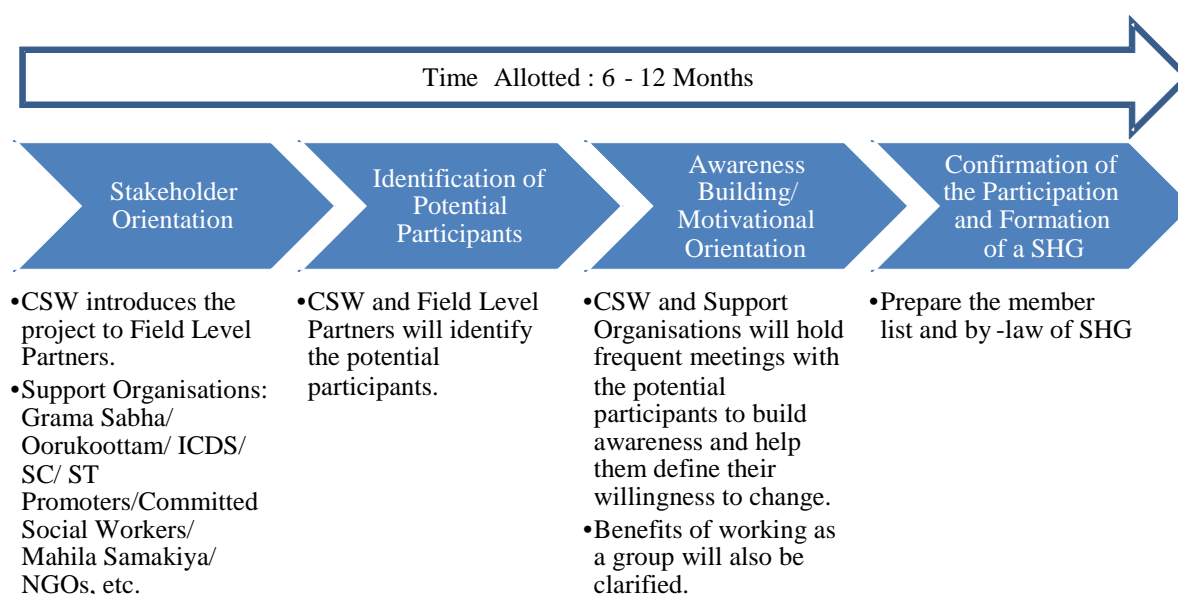
1) Target Selection and formation of SHGs

The trained CSWs will hold meetings with Grama Sabha and other field level partners to select the project participants. In the context of Wayanad, BPL households are largely dependent on the daily wage labour and experience seasonal or permanent fluctuation of income in all social groups. Considering the characteristics of the vulnerability in Wayanad, the project participant may be selected among the BPL households by adopting the following criteria. These are designed to provide livelihood options especially for the female headed households, unwed mothers and men who cannot take part in the heavy manual labour. The selection criteria of SHG members are given in **Section 16.1.1.**

The process of beneficiary selection is comprised of four steps. It is important for the Project to have a good rapport with the Field Level Partners such as Grama Sabha, Oorukoottam, ICDS, SC/ ST

Promoters, and others who have already worked in the district and are very familiar with the local specific issues. Especially Anganwadi workers of ICDS and SC/ ST promoters are working very close to the community and their field experiences and knowledge would be an asset to the Project.

As the rapport between the project and the potential participants as well as their motivation level will have a long term impact on the level of their participation, the Project is recommended to allocate sufficient time to build rapport and as shown in the figure below.



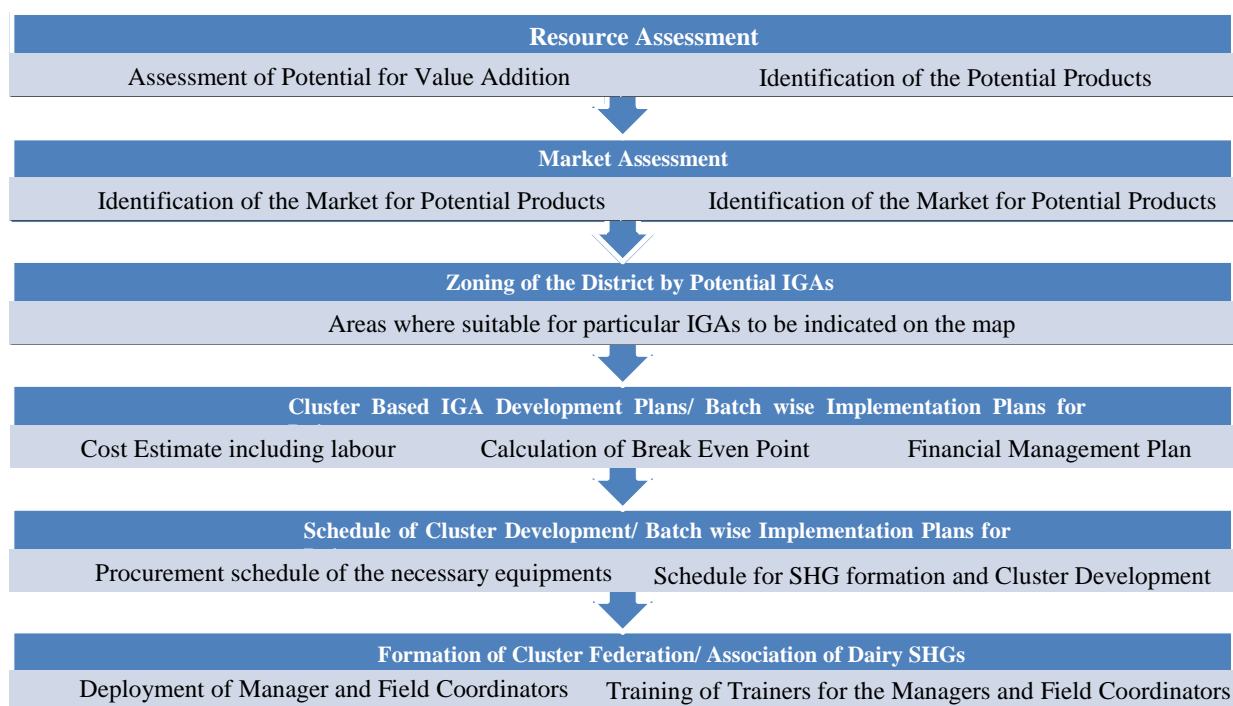
Process of Identification of the Potential Project Participants

Source: JICA Survey Team (2014)

2) Formulation of IGA Development Plan

The IGA Cluster Development Plan for IGAs will be prepared for the entire project duration. In the process of formulation of the IGA Development plan, resource assessment and market survey should be done. Based on the findings, business plan for each product should be developed for validating the profitability. Based on the business plan, the number of clusters to be developed for each product is to be planned. This will be done by the Assistant Directors of Production, Marketing and Business Management.

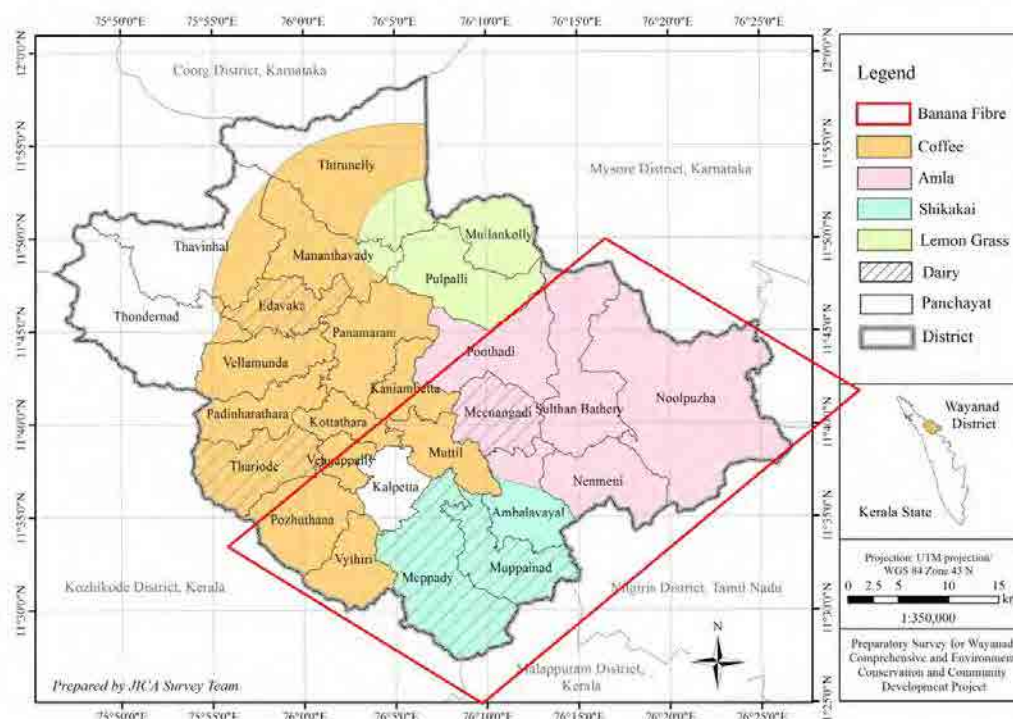
The planning process of IGA cluster development is shown in the figure below. The process is to be completed within four months of the commencement of the project.



Steps of Formulation of IGA Development Plan

Source: JICA Survey Team (2014)

Based on the results of the resource assessment and market assessment, zoning of the project area may be done to facilitate the identification of suitable IGAs in a particular location. This can also be used to have a discussion with the Field Level Partners and SHG members.



Potential Areas for Various IGAs

Source: JICA Survey Team (2014)

3) Development of Guidelines and Manuals

Once the potential IGAs are defined, following guidelines and technical manuals to be used in the orientation and training programmes will be prepared by consultants deployed by the PMU. Close Supervision will be provided by Livelihood Unit of the PMU. Guidelines are to be developed to cater for the basic knowledge of the enterprise development and working as a SHG. A booklet for managing household economy may also be developed as many of the SHG members are likely to be indebted and experiencing difficulties in repayment. For the potential IGAs, technical manual is to be developed for each IGA. For all the materials, sufficient illustrations are to be included. These materials are to be used by the Field Coordinators for the training as well as by the SHG members as field reference.

Suggested Guidelines and Manuals for the Livelihood Enhancement Activities

Title of Guidelines and Manuals	Outline	To be developed by
Guidelines for Enterprise Development	<ul style="list-style-type: none"> ➤ Basics of IGAs ➤ Resource Assessment ➤ Market Survey ➤ Business Planning ➤ Financial Management ➤ Roles and Responsibilities of the SHG members/ Cluster Level Organisation/ Livelihood Resource Centres ➤ Cluster Level Action Planning 	➤ Before the formation of 1 st Batch SHGs
Guidelines for SHGs	<ul style="list-style-type: none"> ➤ Advantage of working as a group ➤ Roles and Responsibilities of SHG members ➤ By-Laws ➤ Record Keeping <ul style="list-style-type: none"> • Financial Records • Meeting Minutes ➤ Holding Meetings ➤ Internal Savings and Lending 	➤ Before the formation of 1 st Batch
Managing Household Economy	<ul style="list-style-type: none"> ➤ Various Sources of Loan ➤ Points to remember when taking a loan ➤ Keeping track of household finance ➤ Balancing household cash requirement ➤ When to take and when not to take loan 	➤ Before the formation of 1 st Batch
Technical Manual	<ul style="list-style-type: none"> ➤ IGA specific technical manual <ul style="list-style-type: none"> • Production procedure • Technique required • Operation and maintenance of the equipments • Quality control • Inventory of the Products • Hygiene and Safety • etc. 	➤ After the formulation of IGA Development Plan

Source: JICA Survey Team (2014)

4) Coordination Meeting with Field Level Support Organizations

In the context of Wayanad district where a number of interventions targeting BPL households implemented by both governmental organisations and NGOs, it is important to avoid duplication and build synergy that can enhance efficiency of interventions. In this Project, coordination meetings will be held by the field level support organisations which would include Kudumbasree, Mahila Samakiya, State Literacy Mission, and NGOs such as WSSS and SHREYAS. The objectives of the meetings are: i) establish understanding of the project objectives; ii) possible areas and mode of collaboration; and iii) build consensus towards meaningful collaboration.

(3) Preparatory Works for Natural Environment Improvement Work**1) Rationale of the Preparatory Works for Natural Environmental Improvement Work**

AHADS-CCPRM employs the staff as field officers who have knowledge and expertises to carry out the PFM at the field level. The approaches for PFM activities are principally regulated by the PFM Guideline of Kerala State issued in 2006. However the actual approaches and the practices to carry out the activities vary in different projects.

In this circumstance the field officers need to have the common bases of knowledge and expertises of PFM, in particular to apply them in the Project activities. Handbook and training materials are critical tools to promote such understanding among the AHADS-CCPRM officers.

As is stipulated in the PFM Guideline, 10 newly-established VSSs/EDCs need to be institutionalized by preparing the members list, establishing the executive committee (EC) and making By-laws. The existing 49 VSSs/EDCs also need to be restored by updating the members list, EC and the By-laws. After completing such setups, the area of the natural forest managed by VSS/EDC needs to be demarcated with simple zoning to avoid competition of land uses inside the forests. As designated in the Guideline the proposed activities are incorporated into the Micro Plan of VSS/EDCs. Following section summarizes the outline of the preparatory activities.

2) Outline of the Preparatory Works

The following preparatory works are carried out by the outsourced organization or the VSSs/ EDCs members under the supports of AHADS-CCPRM staffs and FD personnel.

Preparatory Works in Natural Environment Improvement Works

Activity	Contents
Handbook and training materials	<ol style="list-style-type: none"> 1) It is outsourced to the competent institutions. 2) The target of using handbook and training materials is the staffs of AHADS-CCPRM, FD personnel and the members of 59 VSSs/EDCs. 3) Training materials are prepared as booklet type and delivery type. Booklet type is kept at AHADS-CCPRM office for permanent uses while delivery type is used at the training.
Institutionalization and institutional restoration of 59 VSSs/EDCs	<ol style="list-style-type: none"> 1) 10 Newly established VSSs/EDCs needs to be institutionalized by preparing the members lists and developing EC (Executive committee) and their By-laws. 2) 59 Existing VSSs/EDCs needs to be restored by upgrading the members list and their By-laws. 3) These activities are carried out in a form of meeting and workshop attended by all members of VSSs/EDCs. A facilitator is outsourced in case of necessary.
Area demarcation, survey and mapping for 59 VSSs/EDCs	<ol style="list-style-type: none"> 1) The forest area managed by VSSs/EDCs is identified and demarcated through discussion and field verification by EC members, AHADS staff and FD personnel. 2) The boundary is demarcated on the ground by installing stone piles on it. Inside of the target forests is delineated by zoning to identify protection/production areas. 3) The VSS/EDC members prepare the sketch map to show their forest area and several zones inside with their purposes of management.
Preparation of Micro Plan	<ol style="list-style-type: none"> 1) 59 VSSs/EDCs members under the support of AHADS-CCPRM prepare the Micro Plan including proposed activities, implementing methodologies, schedules, etc. 2) The Micro Plan has to be approved by Deputy ED of Forestry and Wildlife in AHADS-CCPRM.

Source: JICA Survey Team (2014)

(4) Preparatory Works for Community Infrastructure Development**1) Rationale of the Preparatory Works**

The community infrastructure development works intend to provide direct/indirect benefits to the community people, and the major part of the works will be conducted by the working groups composed with the people who have interest in the construction. Therefore, apart from the ordinary works in construction such as plan and design, works, supervision, other preparations are necessary such as to form the working group and prepare the manual. The selection of the target also has to be done in principle in a democratic and participatory manner to confirm the understanding and agreement of the community members in community infra development.

2) Preparatory Works for Housing Works

Identification of Beneficiary Households: AHADS employs the contractual field staff by application basis who works to identify the target beneficiaries of housing works. The field staff consults and supports the *Grama Sabah* to determine the candidate sites for housing. The proposed sites for housing are to be approved by PMU.

Plan, Design and Construction Manual: AHADS employs individual consultants to prepare the plan of construction and design of the house. The design of the house should be simple and applicable to various local conditions and environments where the beneficiaries are residing. Knowledge, techniques and any preparation needed in the construction are compiled in a construction manual for the uses of the beneficiaries. It should be easy-to-understand materials with several pictures and illustrations. The contents are to be approved by PMU.

Formation of Working Group: The employed field staff requests *Grama Sabah* to identify the households who have their concern to construct the houses. The field staff selects them by consultation with the *Grama Sabah* and it is to be approved by PMU. Accordingly the field staff support the selected households to form the working group of households.

3) Preparatory Works for Roads and Bridge Construction

Site selection, plan and design, formation of working groups for access road construction: The individual consultant employed by AHADS request *Grama Sabah* to identify the candidate sites for roads and bridge construction. They are scrutinized and finally selected by the consultants through consultation with *Grama Sabah* as proposed sites of construction. It is to be approved by PMU.

Formation of Working Group: The contractual field staffs are employed by AHADS to form the working group. They request *Grama Sabah* to identify the households who have their concern to construct the road and bridge. The field staff select them by consultation with the *Grama Sabah* and it is to be approved by PMU.

Preparation of construction manual of road construction: The Knowledge, techniques and any preparation needed in road construction are compiled in a construction manual for the uses of the members of the working groups. It should be easy-to-understand materials with several pictures and illustrations. The contents are to be approved by PMU.

Site selection for Bridge construction: It is a direct work done by AHADS-CCPRM. The Project staff request (Overseer or assistant civil engineer) the *Grama Sabah* to identify the candidate sites for bridge construction. They are scrutinized and determined finally as a proposed construction sites for bridges. They are to be approved by PMU as a final determination.

Plan, Design and Preparation of Tender Documents and Draft Contract Documents: This is outsourced to the local consultants or other entities through local competitive bidding. TOR for the bidding is prepared by PMU. The plan and the design should be varied according to the conditions in the target areas. Tender documents should be simple as much as possible to be understood easily by the local consultant.

4) Preparatory Works for Toilet Construction

Selection of target school, plan and design, preparation of tender documents and draft contract documents

Selection of Target School: It is directly done by the Project field officer and overseers under the Assistant Directors of Housing in AHADS-CCPRM. The Project staff request Grama Sabah to select and propose the candidate schools. The Project staff support Grama Sabah to select the target schools.

Plan, Design and Preparation of Tender Documents and Draft Contract Documents: This is outsourced to the local consultants or other entities through local competitive bidding. TOR for the bidding is prepared by PMU. The design of the toilet is basically same in the target schools. Tender documents should be simple as much as possible to be understood easily by the local consultant.

5) Preparatory Works for Upgrading Medical Care Equipment/Facilities of CHCs/PHCs

Confirmation of Requirement of Medical Check and Treatment Equipment: It is a direct work by the AHADS staff to inquire to the CHC/PHC concerned. The types and the quantity of the equipments/facilities in their needs and requests should be exactly identified with their reasons/backgrounds.

Tender Documents and Draft Contract Documents: Tender documents are to procure the medical care equipments/facilities by the contractor. The outsourced local consultants prepare the documents. It should be simple to be understood easily by the local consultant.

16.2.3 Institutional Strengthening

(1) Establishment of CFC

Common facility centres (CFCs) are proposed to be established at cluster level. CFCs will have the processing units and office spaces for the SHG members to undertake IGAs. Each cluster may have 2-5 CFCs depending on the availability of raw materials and the cost of establishment.

The construction of the CFCs will be undertaken by the cluster level management committees which will be established at each cluster level by the elected members of member SHGs. The Executing Agency and cluster level management committees will exchange MOU prior to the commencement of the construction. Once the MOU is exchanged, the cluster management committee will be responsible for the procurement of the construction materials and provision of workers. In principle, the required workers should be mobilised among the SHG members and their families if the SHG members are not fit to undertake the work. Required fund for the construction materials, labour and any other items will be transferred directly to the cluster level organisation. The Executing Agency will provide the necessary technical guidance and ensure the quality of work done.

The drawing of the CFCs will be prepared by the Executing Agency by deploying a specialised personnel. The floor space is proposed to be up to 60 m². The construction works will be undertaken in batches.

The procurement of the furniture for the office spaces and necessary equipments and utensils for production will be undertaken by the cluster level management committee for each cluster with the guidance from the Executing Agency. The list of furniture and equipment will be prepared upon installation. Necessary maintenance of the equipments will be done by the cluster management committee utilising a part of the corpus fund.

(2) Establishment of VSSs/EDCs Office

VSSs/EDCs offices are proposed to be established at the community where VSS/EDC is located. The office will have two rooms which include a space for the secretary and the book keeper to do some desk works and another space for the members to have a discussion or small scale workshop. The total floor space is designed to be around 80 m² as a standard.

The land to build the office is supposed to be secured by the VSS/EDC through purchasing from or making a lease contract with the land owner, which is one of the key conditions for the Project to determine the support of building their new offices. The Executing Agency will visit each VSSs/EDCs to verify their needs to have a new office in the preparatory stage of the Project.

Before launching the construction the Agency and the selected VSSs/EDCs will exchange MOU as a part of comprehensive mutual agreement on the implementation of the Project activities. Once the MOU is signed the VSSs/EDCs will be fully responsible for the process of construction including procurement of the construction materials and organizing the members who engage in the construction. The Executing Agency will provide the technical guidance to the members to ensure the quality of construction works done by the members.

Simultaneously with the completion of construction, the Agency will issue a purchase order to the target VSSs/EDCs to procure the furniture, equipments and utensils for their group activities. The Agency staffs help VSSs/EDC search the supplier to request the price quotation. After the procurement their offices are inspected to examine whether the scheduled goods are properly purchased or not. The procured equipments shall be managed by VSSs/EDCs members in appropriate manner to facilitate their activities smoothly during and after the Project period

16.2.4 Main Component

(1) Livelihood Improvement Work

1) Implementation Framework

➤ Non Dairy Based Livelihood Activities

SHGs will be formed by each 10 members selected at Grama Sabha/ Oorukoottam according to the selection criteria as discussed in the earlier section. When forming a cluster, geographical proximity from the potential CFC site and accessibility from the beneficiaries and to the market will be considered.

Cluster Level Organisation will be formed for each 10 SHGs to undertake income generation activities (IGAs). In each Cluster Level Organisation, Cluster Management Committee will be formed by the elected members of the member SHGs. By-laws will be developed. The Cluster Level Organisation will be responsible for the production activities in coordination with the IGA Development Plan and management of corpus fund.

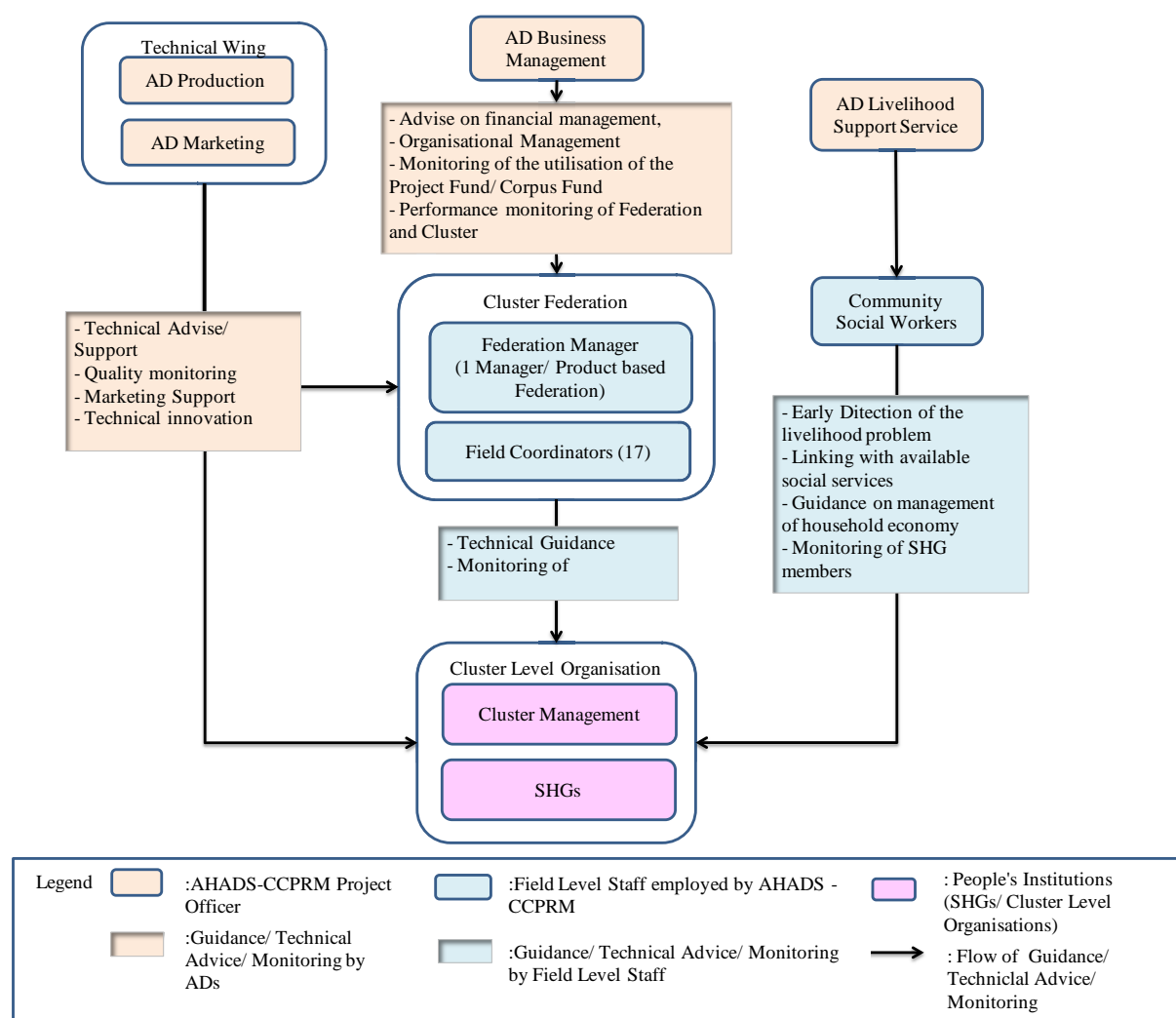
Product based Federation will be formed by the Cluster Level Organisations, which supports the operation and management of the Cluster Level Organisations. Each Federation will have a Federation Manager and Field Coordinators. An executive committee will also be formed by the Cluster Organisations. By-laws will be developed. Field Coordinators will be placed to monitor the performance of cluster as well as the member SHGs. The Assistant Director Business Management will be responsible for overall monitoring of the performance of the Federation and Cluster.

➤ Dairy Based Livelihood Activities

SHGs will be formed by each 10 members selected at Grama Sabha/ Oorukoottam according to the selection criteria as discussed in the earlier section. SHGs engaged in dairy will form a Federation. A Federation Manager will be placed at Federation and Field Coordinators will be placed to monitor the performance of SHGs and provide first hand guidance to them. The Assistant Director Business Management will be responsible for overall monitoring of the performance of the Federation.

➤ Livelihood Support Service

In order to provide support for livelihood improvement in general, an Assistant Director Livelihood Support Service will be placed. Under the Assistant Director Livelihood Support Service, Community Social Workers (CSWs) will be employed. One CSW will be placed in each one of the 25 Grama Panchayats.



Proposed Implementation Framework of IGAs

Source: JICA Survey Team (2014)

2) Approaches adopted for the Income Generation/Livelihood Enhancement

➤ IGAs for Minimising Livelihood Shocks

IGA, though small in scale, is an enterprise. SHGs have to earn profit. Nevertheless, its profits experience fluctuation. It may also take some time before sales are made. On the other hand, in consideration of the household cash flow status of the SHG members, they will need income within a short period. To cope with this, the Project will provide the corpus fund to enable SHG members to receive advance payment of their wages and also to select the IGAs that can bring the profits within a short period of time. The Project will also provide technical support for production and marketing until the SHGs will become sustainable.

➤ Building Capacity of Cluster Level Organisations and SHGs

The sustainability of the IGAs largely depends on the continuation of the supporting services for marketing and product development. As not everyone can be a successful business person, it is inevitable for the Project to invest in establishing a supporting mechanism which can be sustained in the post project period. For this purpose, substantial investment in infrastructure and capacity development for Cluster Level Organisations and SHGs will be necessary to meet the proposed IGA.

➤ **Building Synergy with Support Organisations for Sustainability**

Partnership development will also be emphasised in the Project from the early stage of the Project implementation. The Kudumbashree and NGOs are envisaged as the potential partners for enterprise development and skills training. ICDS and SC/ST promoters will also be recognised as field level support providers in terms of livelihood support services.

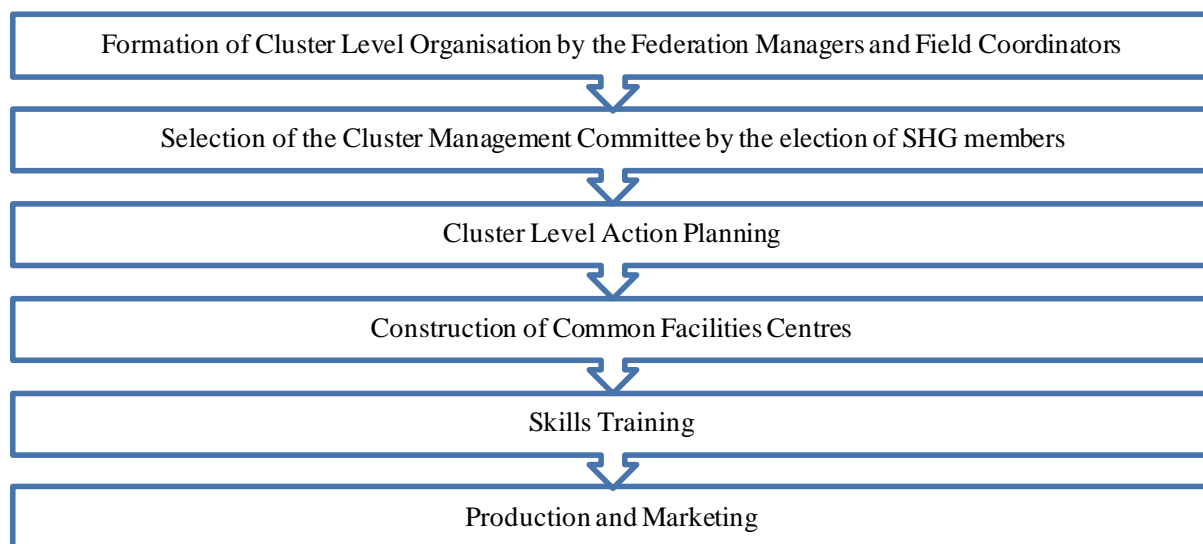
➤ **Building Capacity to Manage Household Economy**

Among the vulnerable households in Wayanad, taking a loan has been a common livelihood mitigation strategy. With the fluctuating income level, repayment often becomes difficult. In many cases, the money is borrowed from more than one source for repayment. While providing earning opportunities for the Project participants, the Project will provide training and advisory services in keeping track on the household cash flow for better planning of the household budget.

3) Non-Dairy Based Livelihood Improvement Activities

➤ **Work Flow**

Federation Manager and Field Coordinators will form groups of SHGs on the basis of IGA. Every 10 SHGs that will be engaged in a common IGA will be grouped into one group called a cluster. An overview of the work flow is given as below.



Flow of the Income Generation/ Livelihood Enhancement

Source: JICA Survey Team (2014)

➤ **Number of Federations, Clusters to be Developed and Staff Deployment Plan**

Five potential products are envisaged in the proposed plan. For each product, around 100 project participants will form 10 SHGs, which will constitute a Cluster for group work. For each product, one production cycle is expected to be approximately 3-4 months with 2-3 cycles a year.

In addition to the five, to cater for further potential products that may be identified during the preparatory work stage, unspecified cluster formation would also be proposed. The clusters are to be formed in three batches in order to validate the cluster formation process and profitability, and to make necessary adjustment. The number of the cluster for each batch is given below for each of the proposed IGA options.

Proposed Number of Clusters to be Formed in each Batch and SHGs and their Members envisaged for each Income Generation Activity

IGA	No. of Clusters to be formed				Total No. of SHGs	No. of Participants
	Batch 1	Batch 2	Batch 3	Total		
Lemon Grass	2	4	-	6	60	600
Shikakai	3	5	-	8	80	800
Banana Fibre	2	3	-	5	50	500
Gooseberry – Honey	2	3	-	5	50	500
Coffee	1	-	-	1	10	100
Others	-	2	3	5	50	500
Total	10	17	3	30	300	3,000

Source: JICA Survey Team (2014)

In each cluster level organisation, a Cluster Management Committee will be formed. It will be comprised of the elected members of the SHG members who belong to the concerned cluster. The composition of the committee will be determined by the Assistant Directors in charge of AHADS-CCPRM. The by-law will also be developed under the facilitation of the Field Coordinators. The Committee will be responsible for construction works of CFC, procurement of equipments and materials, financial transactions and operation of the production activities.

The Project funds will be given to the cluster level organisation and thus, the Cluster Management Committee will take the lead and responsibility of financial management and execution of works. Necessary guidance in management of the cluster level organisation will be provided through the Federation Manager and Field Coordinators. The number of Federation Managers and Field Coordinators proposed are as below. The deployment of the Field Coordinators will be done as per the cluster formation schedule.

Deployment Plan of the Federation Manager and Field Coordinators

IGA	No of Federation	No of Federation Manager	No of Field Coordinators			
			Batch 1	Batch 2	Batch 3	Total
Lemon Grass	1	1	2	4	-	6
Shikakai	1	1	3	5	-	8
Banana Fibre	1	1	2	3	-	5
Gooseberry – Honey	1	1	2	3	-	5
Coffee	1	1	1	-	-	1
Others	-	-				5
Total	5	5	10	17	3	30

Source: JICA Survey Team (2014)

➤ **Cluster Level Action Plan**

The cluster level action plan will be developed by the Cluster Management Committee. This exercise will be done under the guidance of the Federation Manager and Field Coordinators. This will be an annual activity plan for each cluster. Planning process and methods will be laid out by the AD Business and Enterprise Management.

➤ **Construction of Common Facility Centres (CFCs)**

Establishment of the cluster level organisation involves the construction of the office cum work space and procurement of necessary equipments. This is to be done by the Cluster Level Management Committee with the guidance from the Federation Manager and Field Coordinators. Out of the Cluster Level Management Committee members and their household members, a working group will be

formed to execute the works. A contract will be exchanged between PMU and Cluster Level Management Committee for the execution of the CFC construction works.

➤ Skills Training

Product specific training on production and marketing will be done before launching the production and marketing activities. The training will be organised by AHADS-CCPRM. As required, the subject matter specialist will be deployed as consultants. Convergence with National Rural Livelihood Mission is to be considered.

➤ Project Inputs and Corpus Fund

When starting an IGA, CFCs will be established and equipment needs to be procured. The cost of such will be met by the Project.

Corpus fund will be established at each cluster. The fund will be utilised to cover the 1st cycle production cost including purchasing of raw materials and advance payment of wages for the SHG members who take part in the activity. Taking into account of the household economic condition of the SHG members, advance payment of the wages would be necessary to secure their participation and minimise their opportunity cost.

The amount of the corpus fund spent should be repaid by the concerned SHG members once the sales of the products are made.

Corpus fund will be managed in a joint bank account by the Cluster Management Committee. Federation Manager will closely monitor the status. The modalities of corpus fund management will be detailed out by the Assistant Director Business Management during the preparatory work stage.

4) Dairy Based Livelihood Improvement Activities

➤ Objective of Dairy Sub-Component

The objective of dairy program is to provide alternative means of livelihoods which is feasible in the current conditions of BPL households in Wayanad district. The dairy is one of the suggested activities that could ensure stable and regular income through milk production for target households, especially those who are not able to go out for hard work for some reasons. The proposed activities for dairy based IGA include: i) construction of cattle shed and procurement of necessary material for cattle rearing, ii) procurement of daily cattle which are at the stage of milk production and iii) technical trainings for cattle rearing.

➤ Rationale- Enabling Environment for Dairy Promotion in Wayanad district

Dairy Development Department (DDD) developed Brahmagiri Dairy Project (BDP) in 1997 for the development of milk production in Wayanad. There are 18 objectives for BDP, of which the following are consistent with the Project objective: i) to create self-reliance among the small, marginal and landless cultivators, ii) to uplift the SC/ST, and iii) to create employment for women, SC/ST and handicaps thorough the milk development.

Another objective of BDP was to increase milk production to 900,000 L/day within 10 years. Recently the objective is amended to increase milk procurement to 800,000 L/day by 2030. To achieve the objective, DDD set a short term target to increase 4,000 cattle par year, which led to increase milk production of 28,000 L/day par year. To achieve the target, DDD encourages farmers to form Joint Liability Groups (JLG) to have better access to credit facilities for purchase of cattle without the need for collateral security. In spite of their effort, increase in cattle number and milk production remained at 774 heads and 7,665 L/day, respectively, in 2013. The implementation of the project would contribute 5% and 8% of the target in implementation Batch 1 and 2, respectively.

➤ Implementation Process of Dairy Based IGA

An overview of the work flow is given as below.

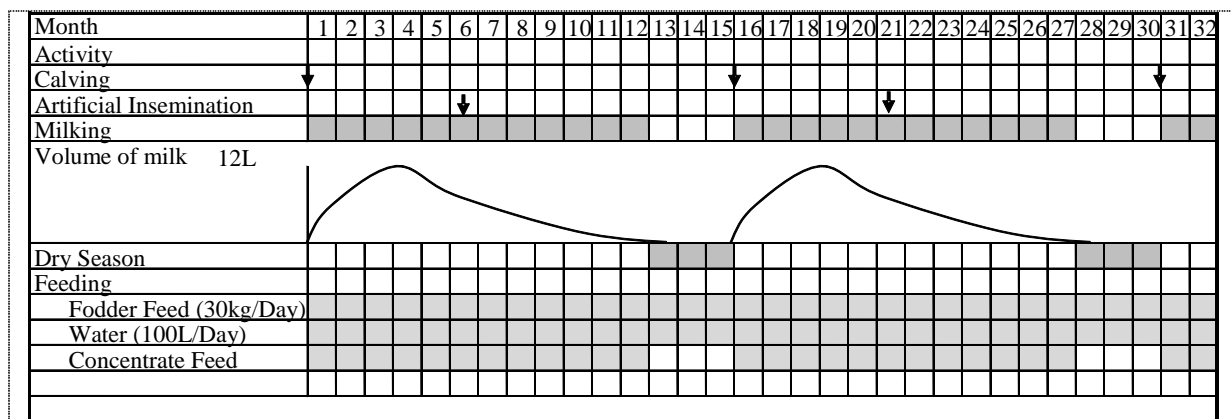
The households selected by adopting the selection criteria stated above will be organised as SHGs. Each SHG will be formed with 10 members. SHGs will facilitate the internal savings and lending which would minimise the vulnerability of the household economy while providing the members with access to loan with minimum interest. For example, the internal loan can be used for medical treatment of his/her cattle.

➤ Area Selection and Batch wise Implementation Plan

The implementation of the project will be done by two implementation batches: 1st batch with 20 SHGs (four groups each in five Garama Panchayats) and 2nd batch with 30 SHGs (four groups each in eight Grama Panchayats). The Panchayats for the 1st batch are selected tentatively where cooperative has their own processing unit; Edavaka, Meenangadi, Muppainadu, Meppadi and Thariode. Panchayats for the 2nd batch are selected from surrounding panchayats of the 1st batch such as Thirunelly, Mananthanady, Thavinhil, Thondernadu, Vellamunda, Pajijarathara, Panamaram, Poothady and Muttill.

➤ Production Cycle and Project Inputs

The cycle of cattle rearing is show in the following figure.



Cycle of Cattle Rearing

Source: JICA Survey Team (2014)

Cattle Shed Semi-open type of cattle shed made of wooden column and board with sheet zinc for two cattle with the floor area of 12.1 m² will be constructed with a hole beside to collect cattle dung. Field Coordinators will provide construction materials and the construction work will be done by group members.

i) Materials Required for cattle rearing

A Sickle for mowing natural pasture for cattle feed, a plastic tub for giving water to cattle, and milk can for bringing milk to collection point will be procured. The cost will be owned by the Project and each SHG will procure those utensils. Cross bred cattle, which maximum milk production is expected to be above 15 L/day at the timing of 2-3 month after calving, will be procured. Field Coordinator will arrange cattle procurement through cattle traders in the area.

ii) Feed and water for Milk Production

Each member of the SHG will collect fodder for cattle from natural pasture grasses. Crop residue such as rice straw will also be used, if available. Concentrate feed and oil cake will be added during milk production stage. Average consumption of the fodder, concentrate feed and oil cake is 20-30 kg/head, 2-4kg/head and 0.7-1.0 kg/head, respectively, which depend on breed. Each of Dairy Cooperative Societies at the Grama Panchayat and Grama Sabah levels has service for concentrate feed provision for member producers of the cooperative and the cost of feed is deducted from the sales of milk. Beer residue can be alternative feed with cheaper price. Average water consumption is 100 L/day.

iii) Supporting Services

Artificial insemination (AI) is available through veterinary inspector in each Grama Panchayat. The cost of AI is free but transportation cost of the inspector from the office to farmer's house should be paid by the beneficiary farmer.

In the case of diseases, the farmer can benefit from free medical services as far as he/she can bring their cattle to veterinary hospital established in the Dairy Cooperative Society concerned. In case a farmer needs to call veterinary to their house, the total medical cost should be charged to the farmer.

iv) Training

Three technical training will be conducted. Preparation of training will be done by Field Coordinator and technical guidance will be done by trainers. DDD officer is assumed to be a trainer. First training of basic cattle rearing will be done right after procurement of cattle. Second training of confirmation of pregnancy will be done after AI, 6 month after calving. Third training of calf rearing will be organised at the timing of calving.

➤ Expected Yield of Milk and Marketing

i) Expected Yield of Milk

In general, cattle produce milk for 12 month after calving. The production volume is highest at 2-3 month after calving and gradually decreasing. Total production volume of milk is highest at the 3rd or 4th calving. Once cattle experience 6th calving, it is the time for replacing with new generation.

ii) Marketing

Milk is sold to the cooperative in their existing collection route on an individual household basis. Most of the Cooperatives have their own collection route and collection points are fixed in certain interval on the route. The time of collection is fixed at each point and producers are requested to bring milk to the nearest collection point at the fixed time. The cost for registration to the cooperative is free.

iii) Other Expected Profits from Dairy

In case male calf is delivered, it would be sold few months later. On the other hand, if female calf is delivered, it is an option to continue to rear for increasing mulching animal or not. Cow dung can be sold or used for their farm, if they own one.

➤ Corpus Fund

Each SHG will have corpus fund of Rs. 50,000 for its bank account.

5) Livelihood Support Services

The vulnerability of the livelihoods of the BPL households in Wayanad is multi-faceted. Especially the SHG members eligible for this Project are particularly facing difficulties. Economic interventions can resolve a part of their problems whereas some of the social issues that are in need of project intervention. CSWs will attend the SHG meetings on a regular basis to identify the livelihood issues of the SHG members. Some of the interventions envisaged in the Project are summarised below. The Assistant Director Livelihood Support Services will explore the avenue for convergence with other support organisations.

Livelihood Support Services envisaged in the Project

Target group	Activity	Support Organisation
School Dropouts	<ul style="list-style-type: none"> Back to school orientation programmes (Residential/ Non-Residential) Literacy Programme Equivalency Programme 	<ul style="list-style-type: none"> Mahila Samakya State Literacy Mission
School Missing Children and children of single parent who needs to go to work	<ul style="list-style-type: none"> Day School 	<ul style="list-style-type: none"> ICDS – Anganwadi Centre
Alcoholism	<ul style="list-style-type: none"> Family Counseling De-addiction Programme Campaign 	<ul style="list-style-type: none"> In collaboration with the existing de-addiction programme (i.e. Meenangadi Panchayat) Health Department Social Justice Department
Akshaya Programme	<ul style="list-style-type: none"> Livelihood support programme for the destitute 	<ul style="list-style-type: none"> Kudumbasree
Access to Social Services	<ul style="list-style-type: none"> Dissemination of information on available social services and facilitation access Creating awareness towards their entitlement 	<ul style="list-style-type: none"> Wayanad based NGOs (Village Resource Centre, and community radio)

Source: JICA Survey Team (2014)

In the context of Wayanad, it is likely that a vulnerable household has debts. Once the SHG members begin to take part in the activity, they will receive wages on a regular interval for the number of days they worked.

For the earnings from the project activities to be used in a meaningful way, the project will provide guidance in managing household economy. CSWs will conduct visits and guidance shortly after the SHG members receive wages from the activity. In order for maintaining continuous contact, one SHG member will be selected as a Livelihood Improvement Worker who would support the fellow SHG members and contact CSWs if required. Furthermore, the assistance from the support organisations such as ICDS and SC/ST promoters will also be sought.

Within each SHG, internal savings and lending will also be promoted as in the case with SHGs formed under other programmes/ schemes. However, in the case of the vulnerable, the regular savings of a small amount of money cannot be afforded at times. In the project SHGs, it is rather important for the members to stay with the group but not to leave the group when they cannot save. To avoid the drop outs from the SHGs, constant follow up and encouragement will be done through CSWs.

6) Livelihood Improvement for VSS/EDCs

The Project will invite a proposal from the VSS/EDCs for NTFP based livelihood activities. The eligible proposals will be selected by Livelihood Unit of PMU by adopting a set of criteria though giving priority to the VSS/EDCs where the NTFP has a significant importance in their livelihood.

PMU Livelihood Unit will work with the selected VSS/EDCs to undertake the resource assessment, market survey and business plan development following the process adopted by the SHGs formed by the project. Assistant Director Research and Development and Dissemination of PMU will undertake relevant activities to diversify the options for value addition and for quality control management, which will be disseminated to the participating VSS/ EDCs.

Activity groups may be formed within the selected VSSs/ EDCs when deemed appropriate for the efficient implementation of the activities.

The profit generated out from the livelihood activities will be shared by the VSS/ EDC concerned and the participating members according to the number of work days and the profit earned. For the effective financial management, the participating VSS/ EDC will open a separate bank account to receive the project fund and create a Community Development Fund out of the profit earned which should be utilised as working capital, maintenance and innovation, and any other village development works. The modus operandi of the Community Development Fund shall be detailed out by the Assistant Director of Business Management and incorporated in the by-law of the VSS/ EDC after the approval of the General Body of the VSS/ EDC.

(2) Natural Environment Improvement Work

1) Mitigation of Human-Animal Conflict

➤ Improvement of Animal Habitat: ANR of Understory Vegetation, Water Post Development

Rationale: One of the main causes of increasing elephant attacks to the communities adjacent the wildlife sanctuaries are drastic shortage of their food in the recent years, which was mainly induced by the sudden and extensive death of naturally grown bamboos and invasion of exotic noxious weeds in the open land. It is critical to improve the habitat of elephants and other larger mammals through ANR (Assisted Natural Regeneration) controlling the weeds and doing enrichment of herbal vegetation to increase food supply. Water post development is also another key to address the issue.

To improve the holding capacity of the natural water post through some civil works could provide the wildlife more reliable and comfortable habitat deep inside of the sanctuary, which in turn can mitigate their attacks to the communities outside of the sanctuary.

Objectives: The activities to be carried out to mitigate human- animal conflict are to reduce the damages to the human lives and the economic losses caused by the frequent intrusion of the wild animal to the human habitat. Following activities are proposed to restore the habitat of wildlife. Specific objectives are follows: i) ANR is to control the spread of noxious exotic weeds and assist herbal species useful for the animal food through regular manual weeding; and ii) water post development is to build the banks to keep the high water level of natural ponds even in less rainfall seasons. The site of ANR will be allocated in the fringe of water post to attain the synergy effect of both two functions. The sites proposed by the Wildlife Division office are indicated in **Figure 1** in **Attachment II 16.2.1**. An example of the landscape around the water posts and the target of ANR are presented in **Figure 2** in **Attachment II 16.2.1**.

Beneficiary: Existing 14 EDCs and four newly established EDCs in the Wildlife Sanctuary are the potential target of the activity. The members of the EDCs who are residing close to the proposed sites will be selected as working group members. The Project contracts the works to the working group.

Work description:**Work Descriptions of ANR and Water Post Improvement**

Work	Description
ANR of Understory Vegetation	<ol style="list-style-type: none"> 1) To select the open area where the exotic noxious weeds (<i>Lantana</i>, Sprouts of <i>Cassia</i>) are dominant as a target for ANR. The area close to the water post is prioritized in the selection. 2) To remove the weeds manually in the sites two times in a year. The first time weeding is done before the short rainy season in October and the second weeding is before the long rainy season in April and May. 3) To cut overgrown grasses useful for animal feeds to encourage their sprouts regeneration. 4) ANR activities will be repeatedly conducted on the area of 1,280 ha for five years in the four ranges in Wayanad Wildlife division.
Water post improvement	<ol style="list-style-type: none"> 1) To construct the banks in the fringe of natural depression areas. The average length of the banks estimated to be 50 m and the height is 1.5 m. 2) The basic works to construct the bank is done by manual works of VSSs/EDCs members 3) Total work quantity is 160 spots in four ranges in Wayanad Wildlife division. The range wise breakdown is as follows: 39 locations in Tholpetty, 32 locations in Kurichiat, 50 locations in Sulthan Bathery, and 39 location in Muthanga.

Source: JICA Survey Team (2014)

➤ Installation of Protection Facilities

Rationale: While the habitat improvement through ANR and water post improvement is rather mid to long term countermeasures, the installation of protection facilities is “quick remedy” to address the issue. Any larger animals which give serious damages to the community can be blocked by simple facility such as fence or trenches. Though they require higher inputs of construction and maintenance, they are more reliable approach for the community to mitigate the damages give by the larger mammals.

Objectives: Installation of protection facilities is proposed to reduce the damages and losses caused by the wild animal to human livelihoods. By installing the fences, trenches and walls that would block elephant, deer and other larger mammals from coming into fringe communities and farmlands, the chances of such negative consequences is expected to be reduced.

Beneficiary: All VSS/EDCs except those in Peria Range of Wayanad North Division are the target for the activities as listed in the table below. The VSSs/EDCs who are frequently suffering from the animal attacks and have clear intentions to address this issue are selected as a beneficiary of the activity. Non-member households who reside close to the target area also could become the beneficiaries of this activity. AHADS-CCPRM as the executing agency will concludes a contract with the selected VSSs/EDCs to implement the installation except installation of solar power fence. AHADS-CCPRM will hire individual consultant to provide the VSS/EDCs with technical support to install the elephant proof rail fence. Some of the sub-group members will be employed as an elephant scaring watcher.

Work description: The followings are general work descriptions of the VSSs/EDCs. **Figure 5 in Attachment II 16.2.1** (design and photo) shows examples of the facilities to be installed under the Project. The sites to install these facilities were provisionally proposed by the FD of Wayanad North, South and Wildlife Divisions.

Work Descriptions of Installing the Protection Facilities

Work	Description
Elephant proof trench modified with one-side	<ol style="list-style-type: none"> 1) A bank will be constructed on one side of trench having a size of 2.5 m in width, 2.0 m in depth and 1.5 m in bank height. 2) The one side of stench will be surfaced with stone masonry to fix the soils on the wall and the bank and avoid erosion.

Work	Description
stone wall	<ol style="list-style-type: none"> 3) Maintenance will be done by clearing sedimentation at the bottom of the trench and repairing will be made in case stone masonry is collapsed. 4) Total length of the trenches is 6.0 km in four ranges of Wayanad Wildlife division.
Elephant proof stone wall	<ol style="list-style-type: none"> 1) Prior to building stone wall, land clearing will be carried out to make the ground surface clear and smooth. The wall will be made of stone masonries with the height of 1.2 m. 2) Maintenance will be done by fixing collapsed masonry. 3) Total length of the stone wall will be 6.7 km in four ranges of Wayanad Wildlife division.
Elephant proof rail fence:	<ol style="list-style-type: none"> 1) A local supplier will be used to procure the used rails, process them and haul them to the construction sites. Rails are supposed to be available at the National Railway Authority in the State. 2) An individual engineer will be employed by AHADS-CCPRM to give technical instructions in constructing the fence. The sub-group members of the concerned EDCs will construct the fence by installing the rail as pillars on the ground every after 10 m and fixing the pillars with the cross beam of the rail. 3) The fence will be almost maintenance free for years but maintenance work would be required in case it is damaged by the elephant. 4) Total length of the rail fence will be 1.5 km in four ranges of Wayanad Wildlife division.
Solar power fence	<ol style="list-style-type: none"> 1) Installation and maintenance needs basic knowledge and expertises in electricity and its distribution by power fence. 2) Hence Executing Agency will contract the procurement, installation and technical maintenance to a local contractor. 3) After the installation, daily management to turn on at 18:00 pm and turn off at 6:00 am will be done by VSSs/EDCs members. 4) Minor maintenance works will also be done by the VSS/EDC members such as clearing the ground along the power fence. 5) Total length of solar power fence will be 200 km in nine ranges of Wayanad North, Wayanad South and Wildlife Sanctuary divisions.
Elephant scaring watcher	<ol style="list-style-type: none"> 1) The sub-group members of VSS/EDCs will be trained as a scaring watcher who has a skill to ward off the elephants whenever appearing in the communities. 2) The watcher will engage in his duty whenever requested by the VSSs/EDCs members. He will also disseminate the knowledge and skill of self-defending against the elephants to the VSS/EDC members. 3) Total work force required will be 24,300 person-day (PD) in Chedleth range in Wayanad South Division 4) Breakdown is: 3 persons for 30 days in a month, 6 months in a year, 5 years in 9 VSSs in Chedleth range (3x30x6x5x9=24,300 person-day)

Source: JICA Survey Team (2014)

2) Eco-restoration

➤ Forest Fire Control

Rationale: Forest fire occurring every year in dry season is the serious threat to the exiting ecosystem and the livelihood security of the fringe communities as well. The causes behind the fire are both accidental and intentional; hence several approaches should be taken simultaneously to address the issue.

Objectives: The objectives of fire control measures are to minimise the loss of ecosystems and forest resources. The specific objectives of this by this sub-component are to: i) decrease the outbreak of fires and mitigate their damages by assuring fire line between the forests and the community; ii) enhance capacity of the concerned VSSs/EDCs to respond the fire by providing the equipments; and iii) conduct the training to become fire watcher

Beneficiary: The VSSs/EDCs residing adjacent to forest fire prone areas will be selected as the implementing bodies of the work. Based on the experiences in the recent years the fringe community adjacent Wayanad Wildlife Sanctuary would be one of the focus of this work.

Work description: The selected VSSs/EDCs will conduct the fire control activities on contractual basis. The followings are general work descriptions of the VSSs/EDCs.

Work Descriptions of Installing the Protection Facilities

Work	Description
Fire line management	<ol style="list-style-type: none"> 1) To clear the ground vegetation on the fire lines of 5.2 m wide. It will be done during January and May in the dry season. 2) Total length of fire line management will be 100 km in Wayanad South Division. 3) The management work for the 100 km will be repeated every year over five years period.
Procurement of fire fighting equipment	<ol style="list-style-type: none"> 1) The Project Executing Agency will procure the fire fighting equipments such as fire fighter bars and buckets and delivers them to 59VSSs/EDCs in the three divisions. 2) The Agency under the support of the FD staffs will provide a basic training to the members of 59 VSSs/EDCs. 3) VSSs/EDCs members are expected to fight fire using those equipments whenever it breaks out in and close to their communities.
Assignment of fire watcher	<ol style="list-style-type: none"> 1) Some of the VSSs/EDCs members will be trained as a fire watcher and assigned during dry season from January to May every year. He is supposed to be stationed at fire watching spot during high alert season and give early warning to the whole community whenever the fire breaks out. 2) He is also supposed to lead the community people in fighting fire and taking measures against the symptoms of wildfire. 3) Total number of fire watcher is estimated to be 16,200 person-day (PD) in Meppady range in Wayanad South Division 4) The breakdown is as follows: 3 persons for 30 days in a month, 6 months in a year, 5 years in 6 VSSs in Meppady range (3x30x6x5x6=16,200 person-day)

Source: JICA Survey Team (2014)

3) VSSs/EDCs Development

➤ NTFP Development

Rationale: As indicated in the Participatory Forest Management (PFM) guideline in Kerala State, the VSSs/EDCs have to become self-reliance after completing the regular process of PFM supported by AHADS-CCPRM. In this sense it is critical for them to have their own IGAs as a mean of fund raising. NTFP development is one of the potential areas to be invested by the Project because natural forests in Wayanad district are rich in NTFP resources and the forest dependants have been using them in their traditional manner. It is therefore valuable for the Project to support the community in developing NTFP related businesses by VSSs/EDCs for the improvement of their livelihoods and financial status of the VSSs/EDCs as well.

Objectives: Specific objectives of this sub-component are: i) to develop a NTFP business model for VSSs/EDC, which would include finding potential resources, market assessment, product development, preparation of business plan, establishing processing unit and manuals/guidelines; and ii) build capacity among VSS/EDC members to gain skills in running NTFP businesses.

Beneficiary: Ten AVSSs in Wayanad North and South division and one AEDC in Wayanad Wildlife division will be selected as the target of this activity (in total 11 AVSSs/AEDCs). The AVSSs/AEDCs members consist of only ST people and rely their livelihoods mainly upon collecting NTFPs in the natural forest and other source of cash income except agriculture.

Work description: Some of the works will be done by the external consultant and the outputs of the works will be utilized in the trainings for VSSs/EDCs.

Work Descriptions of NTFP Development

Work	Description
Resource and Market Assessment	<ol style="list-style-type: none"> 1) Assessment on NTFP will be conducted by an outsourced competent agency. The assessment will include: i) inventory of NTFPs species in the target forest; ii) estimation of the allowable amount of collection in a fixed period to secure continuous NTFP related-businesses in a sustainable manner; and iii) proposing their utilization from the scientific point of view. 2) Concerning the marketing of the NTFP, another agency will be procured for the work on: i) review of the current practices of selling the products; ii) survey on the potential market of NTFP; and iii) seeking better market channel in addition to SC/ST Cooperatives to generate more profits to the AVSSs/AEDCs.
Product Development	<ol style="list-style-type: none"> 1) Individual consultant will be assigned to do product development. Based on the resource and market assessment conducted in the work stated above, the consultant is supposed to collaborate with the AVSSs/AEDCs members to invent the NTFP products which have good market values and generate more income. 2) The consultant will develop the basic frame of business plan for prospective NTFP, which will include to collect and process the target NTFP in the community and to sell the products at profitable market.
Preparation of Business plan	<ol style="list-style-type: none"> 1) Individual consultant will be assigned to prepare the business plan of NTFP by the target VSSs/EDCs. Based on the resource and market assessment and product development, he/she is supposed to collaborate with the target VSSs/EDCs members to formulate the plan which can generate tangible profit for the group members. 2) The consultant is also expected to propose a basic idea to establish the processing unit to produce the NTFP products as proposed in the first step of NTFP related works.
Establishment of Processing Unit	<ol style="list-style-type: none"> 1) The AVSSs/AEDCs will establish units/plants for processing the target NTFP. The plot to build the unit will be secured by the members and they determine the basic design of the unit. 2) Construction works is outsourced to the local contractor. Facilities and equipments will be procured by the AVSS/AEDC members to process the NTFP products.
Manuals and Guidelines	<ol style="list-style-type: none"> 1) Manuals/guidelines will be prepared for: i) the sustainable collection/harvesting of the NTFP; and ii) preparation of business plan and implementing the business plan. 2) The former one will be prepared by the agency procured for resource and market assessment, while the latter one will be prepared by the agency procured for preparation of business plan. 3) The manuals/guidelines will be finalized in two steps. The first edition will be prepared at the initial stage in the course of activity and utilized among the AVSSs/AEDCs members while they're involved in the trainings. The revised edition will be prepared by incorporating the experiences and the outputs of the activities. It will be reviewed by the members for their comments and finalized.

Source: JICA Survey Team (2014)

➤ **Eco-tourism development**

Rationale: Having rich and unique ecosystems, Wayanad is one of the focuses of eco-tourism destinations in the southern part of the country. Eco-tourism to visit precious, fragile and undisturbed natural environments is a main trend of the tourism in this area. It also needs inputs of the local communities who are familiar with the environments of the tourism sites and have a potential to guide the tourists in the hills and mountains.

The eco-tourism in Wayanad district has been implemented for several years but with very limited scale and impacts to improve the livelihoods of the local community as a source of cash income while it still has several potentials to be developed. Therefore the Project intervention to expand the possibility of the eco-tourism in this area is valuable and worth to do in order to turn it more profitable and attractive options for the community to sustain their livelihoods.

Objectives: The objective of this sub-component is to contribute to the betterment of the community livelihoods through enhancement of eco-tourism in the forest lands.

Beneficiary: The target implementing bodies of this work are ten VSSs/EDCs (eight VSSs and two EDCs) in which the members have been conducting eco-tourism activities. The tourism spots are not prevailing in the state forest land or in the wildlife sanctuary therefore the number of VSSs/EDCs which are selected as the target may be limited.

Work description: The following works are implemented by the VSSs/EDCs:

Work Descriptions of Eco Tourism

Work	Description
Improvement/Development of Roads and Nature Trails inside of Forest Land	<ol style="list-style-type: none"> 1) Unpaved vehicle roads connect the tourism centre (location of range office) and the start point of trails inside of the forests. The road conditions frequently get rough owing to the heavy rainfall in the rainy season and weak management though a year. 2) It is the same case as for the nature trails. Because the trail is small path suitable only for walking, it is fragile to the natural phenomena such surface erosion, fallen trees and rocks, other disturbance of land surface along the trail. 3) Under these circumstances the vehicle roads and the trails will be upgraded and maintained by the target VSSs/EDCs members. Concrete surfacing is done for the vehicle roads while gravel surfacing with guide fence is operated for the natural trails. 4) Total length of road improvement/development is estimated at 100 km in seven ranges of Wayanad North, South and Wildlife Division. 5) Total length of nature trail improvement/development is 180 km in seven ranges of Wayanad North, South and Wildlife Division. 6) At the same time of enhancing eco-tourism, this work aims to confine the vehicles and tourists to the designated road/trail areas so that they would not erratically enter into the forest land and damage the valuable and fragile natural resources.
Development of Interpretation Centre	<ol style="list-style-type: none"> 1) Interpretation Centre will be built at strategic sites as the entry point of eco-tourism. It will be used to: i) communicate the tourists with rules and code of conduct in the forest lands; ii) provide them knowledge on fauna and flora to be protected and education on the importance of protecting the natural resources; iii) disseminate to the tourists the knowledge of natural and cultural heritages of the tourism sites. 2) To construct the centre, the Executing Agency will employ an individual consultant to prepare the design of the centre and will outsource its construction to a local contractor. 3) The centre will have a simple design of such public spaces as exhibition room, training/seminar room and office/utility room for the tourists. 4) VSSs/EDCs members will be trained as nature guide, who could brief the profiles of natural heritage of the target area using various displays on natural environments, fauna and flora distributing in the area. 5) Total number of the interpretation centre to be built is 10 centres for 10 VSSs/EDCs who will be the target of eco-tourism development in the Project. The range wise breakdown is as follows: <ul style="list-style-type: none"> ➤ Wayanad Wildlife division: Tholpetty (1), Muthanga (1) ➤ Wayanad North division: Begur (1), Mananthavady (2) ➤ Wayanad South division: Chedleth (1), Kalpetta (1), Meppady (3)
Installation of Sign Boards for Nature Conservation	<ol style="list-style-type: none"> 1) Sign board to remind the tourists the cleanliness and environmental conservation in the tourism area. The VSSs/EDCs members will maintain the boards and constantly remind the tourism to keep clean the tourism area. 2) Total number of the sign board to be built is 10 set for the 10 VSSs/EDCs. The range wise breakdown is the same with the interpretation centres stated above.
Preparation of Ecotourism Manual for Nature Guides and Preparation of Promotion Brochures	<ol style="list-style-type: none"> 1) The manuals are to help the nature guides get knowledge and skills, which will be developed by an external consultant. 2) The manual will cover the basic discipline of the eco-tourism and its guide, skills to communicate with the tourists, knowledge of local fauna, flora, people and natural/social heritages in the site. 3) The first edition of the manuals will be used by the guides and their comments will be reflected to upgrade the manuals. 4) The promotion brochures will be used to promote the eco-tourism of the Wayanad area. Same as the manual it will be prepared by an external consultant and finalized through collaboration with the VSSs/EDCs members.

Source: JICA Survey Team (2014)

(3) Community Infrastructure Development Work**1) Housing Work**

Rationale: As confirmed through the field investigation and mentioned in **Chapter 11**, many houses which construction were once commenced under the schemes such as EMS, IAY, etc., have not been completed. Those houses have been left for years in the condition under construction. The major cause is the shortage of the fund to be prepared by the house owner side. The households who have no capacity to prepare the required fund need other scheme that can support to complete the housing.

Objectives: The housing component aims at contributing to provide one of the basic human needs – a decent shelter.

Beneficiary: The households with the lower capacity to prepare the required fund will be the beneficiaries. Selection criteria of the beneficiaries are given in **Section 14.2**.

Work description: Housing work is to provide full support to the beneficiaries to complete their houses. Details of work description are given below.

Work Descriptions of Housing Work

Work	Description
Design	<ol style="list-style-type: none"> 1) The whole work quantity of the housing work is divided into 5 batches to be executed during 5 years. Each of the batches is to be executed in a year. This cycle is to be repeated 5 times. 2) Total number of housing works is tentatively determined to be 1,000 houses. This will be reviewed at the outset of the preparatory work for the housing work. 3) The designed house is to be of the minimum size such as Type-I applied in Total Hamlet Development Programme, AWCECOP. The general dimensions are to be: 5.9m in width, 5.9 m in length and 3.2 m in height from the ground surface; accordingly the floor area will be 33.6 m². 4) The wall with 23 cm in thickness will be made of the red stone block masonry that is widely used in Wayanad as shown in the photos of Annex 7. 5) The roof will be made of the reinforced concrete slab in 12 cm in thickness. 6) The house will be composed of the multipurpose hall (9.1 m²), the bedroom (6.5 m²), the kitchen (3.8 m²) and the toilet (1.7 m²) inside in the net size excluding the area for the walls, etc. There will be a front veranda (2.8 m²) and a rear veranda (2.9 m²) outside. The proposed layout is shown in Figure 1 in Attachment II 16.2.2
Construction	<ol style="list-style-type: none"> 1) The house construction work for each batch is to be executed by the Working Group in the hamlet / colony concerned under the supervision by PMU with the technical guidance by the local consultant. 2) Each batch is to be executed in a year in succession to the preparatory work. Several packages are to be made in a batch to cover one fifth (1/5) of the whole housing works in a year. This cycle will be repeated five (5) times thus the total construction period is expected to be five (5) years. 3) The preparatory work is to be carried out one year ahead to the construction of each batch. Thus the preparatory work of the last fifth batch will be done in the fourth year of construction. 4) As for the quality of the construction work in relation to safety, it is specially noted that the foundation soil under the foundation framework made of the stone masonry need to be sufficiently compacted in accordance with specifications to safely support the wall and the roof.

Source: JICA Survey Team (2014)

2) Access Road & Bridge Construction

Rationale: As confirmed through the field investigation in Wayanad and mentioned in **Chapter 11**, majority of the access roads to the community are not well maintained especially in the portions near the communities. Some access bridges are temporary ones made of wood which is easily broken by the annual flood and others have already been broken and not repaired yet. It gives a hardship to the kids to go to school every morning and come back every afternoon.

Thus to improve such condition should be done first to promote the willingness among the children to go to school and improve the level of school education. Furthermore, with construction of the access road and bridge, the BPL people could enjoy the convenience in moving to their working places, to the shops, to the other houses, etc.

Objectives: An access road is one of the life lines that links a rural community to basic public amenities and facilities. It also provides access to markets and work places. This sub-component, thus, aims at improving the living condition of the rural communities through improving access from the settlement to the main road.

Beneficiary: The main beneficiaries are the local people in the concerned colonies/hamlets who use the roads & bridges regularly and frequently.

Work description:

Work Descriptions of Access Road

Work	Description
Design	<ol style="list-style-type: none"> 1) Same as the housing work, the whole work quantity (100 km) is divided into five (5) batches for five (5) years. Each batch is executed in a year. 2) As for the design work, the access roads are to be paved with the concrete that needs less maintenance. 3) The works are to be executed from the near part from the colony. 4) The access roads are classified into two categories. One of which is the small scale rural road which is the majority of the works (about 80% of the whole length). The pavement width is to be 3.0 m where the vehicle can also pass. The rest of the road (20%) will be with the pavement width of 1.0 m as the footpath that will be applied for the hilly or sloped area. The ratio of 80% and 20% is to be reviewed and decided again through the detailed survey at the outset of the preparatory work. 5) Dimensions of the typical section of the 3.0 m pavement road are of the concrete pavement width: 3.0 m, each of shoulders width: 0.5 m, the concrete pavement thickness: 20 cm, the sand & gravel sub-base course thickness: 5 cm, the sand & gravel shoulder thickness: 10cm, the earth sub-grade thickness: 30 cm. 6) Dimensions of the typical section of the 1.0 m pavement road are of the concrete pavement width: 1.0 m, each of shoulders width: 0.2 m, the concrete pavement thickness: 10 cm, the sand & gravel sub-base course thickness: 5 cm, the sand & gravel shoulder thickness: 5cm, the earth sub-grade thickness: 20 cm. 7) The concrete lined side gutter is to be constructed as required according to the site topography and the rain water flowing route, etc. Some portion would need the side gutters at both left and right sides. Some portion would need it at one side only. Some portion passing on the highest route where the both sides are lower than the road surface would not need the side gutter at all. The present condition of the road, which does not have such side gutters, is as shown in the photos of Annex 7. 8) The cross drainage structure is to be constructed at each lowest point of the above-mentioned side gutter. The dimension and the type (the box or the pipe) are to be determined depending upon the drainage water quantity at the heavy rain time. 9) The typical sections of the roads are shown in Figure 2 in Attachment II 16.2.2 10) Total length of the road works is tentatively determined to be for 100 km consisting of 80 km for the 3.0 m road and 20 km for the 1.0 m footpath, which will consists of a number of short length access roads selected among the ones connecting to the whole 2,167 hamlets / colonies in Wayanad.
Construction	<ol style="list-style-type: none"> 1) The construction work of the access road for each contract package is to be executed by the Working Group under the supervision by PMU in accordance with the construction manual prepared in the preparatory work period. 2) The working group will be formed among the people residing in the concerned colony/hamlet with the assistance of the Grama Sabha. 3) In succession to the contract, the first batch covering about one fifth of the total length will be executed in a year. Then, this cycle will be repeated five times. The total construction period needs five years accordingly. 4) The earth sub-grade shall be well compacted in accordance with the specifications to

Work	Description
	safely support the sub-base course and the concrete pavement to be constructed on the sub-grade. As for the concrete pavement, the compaction with use of the vibrator and the concrete curing after the placing shall be executed in accordance with the specifications to secure the specified strength.

Source: JICA Survey Team (2014)

Work Descriptions of Access Bridge

Work	Description
Design	<ol style="list-style-type: none"> 1) Same as the access road work, the whole work quantity (50 bridges) will be divided into the five batches for five years. Each batch will be executed in a year. Then, this cycle is to be repeated five times. 2) As for the design work, the access bridges will be classified into two categories. The first category is the rural bridge where the vehicle can also pass and the second one is so-called pedestrian bridge. Majority of the works will be executed at the existing crossing points of the river or the stream as shown in the photos of Annex 7. 3) The rural bridge of the above is to be the ordinary concrete bridge. Dimensions of the typical cross section will be the width of vehicle lane: 3.5 m and the width of the side walk part: 0.5 m for only one side, and so the total width: 4.0 m. The standard length is assumed for cost estimate to be some 40 m, which is to be determined depending upon the actual river width at the proposed site. 4) The pedestrian bridge will be further classified into three types: the concrete bridge; the steel truss bridge; and the suspension bridge. Selection of the bridge type should be determined depending upon the river cross section. The concrete bridge with several spans is suitable for the shallow river where the height of the piers is smaller and the cost for those is cheaper. Contrarily, the suspension bridge that does not have the piers is suitable for the deep river. The steel truss bridge with less number of piers is to be the middle. The width of the pedestrian bridges is 1.5 m which will be applied to all the three different types. The standard length is estimated at some 40m as mentioned above. 5) The typical sections are shown in Figure 3 in Attachment II 16.2.2. 6) The total number of the bridges proposed by the Survey Team is 50, consisting of 25 of the concrete vehicle bridge, 10 of the concrete pedestrian bridge, 10 of the steel truss pedestrian bridge and 5 of the suspension pedestrian bridge. This will be reviewed and determined finally at the outset of the preparatory work.
Construction	<ol style="list-style-type: none"> 1) The construction work of the access bridge for each contract is to be executed by the local contractor under the supervision by PMU with assistance by the local consultant. In succession to the contract, the first batch covering several packages will be carried out in a year. Then, this cycle will be repeated five times. The total construction period will be five years accordingly. 2) The construction works are to be executed in accordance with the Conditions of Contract, the General Specifications and the Technical Specifications to secure the quality of the works. As for the works in the water, the special attention is to be paid to the safety control, which will be conducted through the construction supervision.

Source: JICA Survey Team (2014)

(3) Renovation of School Toilet

Rationale: As confirmed through the field investigation and mentioned in **Chapter 11**, the school toilet work is mainly executed under SSA. The condition of the toilet has been improved year by year mainly in the interior such as the floor and the wall that are being changed from the direct concrete surface to the tiled one. However, the water supply works and the sewerage & drainage works have not been executed as required. Therefore, the cleaning of the toilet cannot be done sufficiently. The school toilet renovation work is effective and useful for the school pupils to know the favourable level of the sanitary condition and to learn the measures how to use and maintain the facilities. Therefore, the renovation of school toilet should be implemented by investing appropriate resources through the Project.

Objectives: The sub-component aims at creating conducive learning environment for school children and students through renovation of school toilet for the lower primary schools and demonstration of the sanitary toilet to other schools

Beneficiary: The school pupils and the concerned families who will receive the information of the sanitary toilet from the pupils.

Work description:

Work Descriptions of Renovation of School Toilet

Work	Description
Design	<ol style="list-style-type: none"> 1) The whole target schools (25 schools) will be divided into three batches to be executed during three years. Each of the batches is to be executed in a year. This cycle is to be repeated three times. 2) The designed school toilet is one of the standards of SSA. The general dimensions of the boys' toilet are to be the width: 4.8 m, the length: 6.5 m and the height from the ground surface: 2.9 m. Those of the girls' toilet are to be the width: 4.8 m, the length: 7.7m and the height from the ground surface: 2.9 m. 3) The outside walls with 20 cm in thickness will be made of the brick masonry that is widely used in Wayanad as shown in the photos of Annex 7 in Volume III. 4) The roof will be made of the reinforced concrete slab in 10 cm in thickness. 5) Both toilets are designed for 11 pupils. The boys' toilet will have 10 urinals with the partition boards and 2 stools in the separate rooms. The girls' toilet will have 11 stools in the separate rooms. Each of the toilets will have one wash area. 6) The toilet facilities such as the urinal, the stools and the flushing system will be the international type. 7) A new dug (open) well will be excavated for the sufficient water supply for the toilets. The general dimensions will be the inner diameter: 4.0 m, the depth: 6.0 m and the height on the ground surface: 1.0 m. The submergible pump will be installed in the well. The pump control house with W: 1.5m x L: 2.0m x H: 2.0m is to be constructed. 8) A water tank with 15,000 liters with inner dimensions of 2.9 m square and 2.2 m height on the tower of 2.0 m height from the ground surface will be constructed for covering both toilets. 9) Two septic tanks covering both toilets are to be constructed besides the toilets. Each of the septic tanks will have the capacity of 32,000 liters consisting of the anaerobic tank and the aerobic tank. The general inner dimensions will be the width: 2.0 m, the length: 4.0 m and the depth: 2.0 m. The septic tank is to have the drainage pipe from the aerobic tank. The drainage gutter into which the drainage water from the pipes of both septic tanks flows out is also to be constructed for some distance until the proper stream or the river to drain the sewerage water after treated in the septic tanks. 10) The layout is shown in Figure 4 in Attachment II 16.2.2. 11) The target schools for this work will be determined at the outset of the preparatory work with the assistance of Grama Panchayats.
Construction	<ol style="list-style-type: none"> 1) The school toilet renovation work for each batch is to be executed by the contractor to be selected through the local competitive bidding under the supervision by PMU with the technical guidance by the local consultant. 2) Each batch is to be executed in a year after the preparatory work. Several packages are to be made in a batch to cover one third (1/3) of the whole school toilet renovation works in a year. Then, this cycle will be repeated three times. The total construction period will be three years. The preparatory works of the first batch are to be conducted for one year, which will be followed by the construction work of the same batch. 3) As for the quality of the school toilet renovation, it is specially noted that the works for the water supply system and the sewerage & drainage system shall be well executed to secure the smooth operation of the facilities and the maintenance in accordance with the Specifications. 4) The construction supervision provided in the Conditions of Contract, the General and Technical Specifications is consisting of the daily instruction / approval / disapproval in

Work	Description
	writing, the daily inspection and approval / disapproval in writing, the verification of the statement of the work quantities and the payment amount, etc.

Source: JICA Survey Team (2014)

(4) Installation of Medical Care Equipment

Rationale: As confirmed through the field investigation, the facilities and equipment of the health centres are specified in the Indian public health standards. The existing medical care equipment is fully utilized for the daily visitors or the patients including inpatients. However, some of the equipment does not function well or out of order. There are not the X-ray facilities and equipment for the lungs and the stomach.

Under such condition, installation of the medical care equipment in the health centre is to be effective and useful for the BPL people who do not usually go to the private hospital with the high level facilities and equipment and come to the health centre.

Objectives: This sub-component aims at contributing towards better health and medical services to meet the basic human needs through procurement of medical care equipment at CHCs and PHCs.

Beneficiary: Majority of the beneficiary are the BPL people who usually use the health centres.

Work description:

Work Descriptions of Updating Medical Care Equipment

Work	Description
Design	<ol style="list-style-type: none"> 1) The whole target health centres (25 centres) are divided into three batches to be executed during three years. Each of the batches is to be executed in a year. This cycle is to be repeated three times. 2) Items for installation are determined in consultation with the doctors in the health centres in the investigation this time. The items of the medical care equipment to be installed are two units of the blood pressure apparatus (mercury type) and each one of the hemoglobin metre, the Glucometre, the sterilization kit, the oxygen inhalator, the X-ray facilities & equipment for the lungs, the same for the stomach, and the electrocardiograph (ECG). 3) The existing equipment in the health centres are shown in the photos of Annex 7. 4) Total number of target health centres is tentatively determined to be 25. This will be reviewed in the expected implementation stage.
Procurement	<ol style="list-style-type: none"> 1) The medical care equipment for each batch is to be procured by the local suppliers through the local competitive bidding under the supervision by PMU. Each batch is to be executed in a year in succession to the preparatory work for each batch. Several packages are to be made in a batch to cover one third (1/3) of the whole equipment in a year. Then, this cycle is repeated three times. The total procurement period is three years. 2) The start of the procurement of the first batch is one year later than the start of the preparatory work of the 1st batch. The end of the procurement of third batch is one year after the end of the preparatory work of the same batch. 3) The X-ray facilities & equipment of both for the lungs and the stomach are to be imported. All other equipments are procured locally.

Source: JICA Survey Team (2014)

16.2.5 Supporting Component

(1) Capacity Development in Livelihood Improvement Work

In order for SHG members to pursue IGAs, training programmes are to be conducted by the Project. A training needs assessment will be conducted by outsourcing. Based on the training needs, training modules will be prepared by the outsourced agency. The training programmes shall be conducted

following the training modules and scheduled on an annual basis. Orientation programmes can be conducted by the Training Unit of PMU prior at the earliest stage.

Suggested outlines of the orientation and training programmes are given below.

Suggested Orientation and Training Programmes to be conducted for IGA and Livelihood Enhancement

Subject	Participants	Duration	Timing
Orientation	<ul style="list-style-type: none"> Field Level Support Organisations Project Participants Federation Manager Field Coordinators 	<ul style="list-style-type: none"> 2-3 hours 	<ul style="list-style-type: none"> At the 1st meeting
Training of Trainers	<ul style="list-style-type: none"> Federation Manager Field Coordinators 	<ul style="list-style-type: none"> 14 Days 	<ul style="list-style-type: none"> Immediately after the deployment
SHG	<ul style="list-style-type: none"> SHG members 	<ul style="list-style-type: none"> 7 Days at varying timing To be done on a group basis 	<ul style="list-style-type: none"> To be scheduled during the initial 3 months of SHG formation
Micro Enterprise Development	<ul style="list-style-type: none"> SHG members 	<ul style="list-style-type: none"> 5 Days To be conducted with the representatives of the SHG members 	<ul style="list-style-type: none"> To be scheduled after 6 months of formation of SHGs
Cluster Level Activity Planning	<ul style="list-style-type: none"> Cluster Level Management Committee Members 	<ul style="list-style-type: none"> 2 Days 	<ul style="list-style-type: none"> To be scheduled immediately after the formation of the Cluster Level Management Committee by the Federation Manager and Field Coordinators
Managing Household Economy	<ul style="list-style-type: none"> SHG members 	<ul style="list-style-type: none"> 5 Days To be conducted at varying timing. 	<ul style="list-style-type: none"> To be scheduled within the 12 months of SHG formation
Technical Training (IGA Specific)	<ul style="list-style-type: none"> SHG members 	<ul style="list-style-type: none"> To be conducted with the SHG members 	<ul style="list-style-type: none"> To be conducted at the Cluster Level Organisation by the Cluster Level Manager and Technical consultant deployed by the Livelihood Resource Centre

Source: JICA Survey Team (2014)

(2) Capacity Development in Natural Environment Improvement Work

1) Training: Training for Field Officer of PFM

Rationale: The Project Executing Agency should employ the staffs who are capable to lead the process of PFM in the field. However the preparatory training is necessary to review comprehensively and update the knowledge and practical approaches of PFM to be applied in the Project target communities. It will give the field officers an opportunity to understand the Project as a whole and set a total frame in his/her mind to implement PFM.

Objectives: To capacitate the field officer to be prepared to implement PFM in the Project through understanding the activities, approaches, goals of the Project and his/her duties.

Beneficiary: All field Officers in charge of PFM (Forestry and Wildlife).

Work description: The tentative contents of the trainings are as the followings.

Contents of Training for the Field Officer of PFM

Work	Description
Review of government decree and guidelines relevant PFM	<ol style="list-style-type: none"> The participants in the training will review the latest government order, guideline, program, technical instruction, etc. associated with PFM in Kerala State and update the knowledge of PFM They will review the achievements of PFM in the past projects funded by the international organizations and the donor agencies and consider the potential,

Work	Description
	possibility and limitation of PFM within the current legislative setups in the State.
Review of the Project implementation plan and tasks/duties of the field officers	<ol style="list-style-type: none"> 1) The participants will review the Implementation Plan (IP) of the Project and understand the activities and goals of PFM conducted at the VSS/EDC basis. He/she is supposed to become fully aware of the tasks and duties of the Project staffs to smoothly implement the activities during the whole Project period. 2) The participants will also prepare the annual detailed plan and schedule of implementing the activities, in particular paying due attention to collaboration with the FD personnel at division, range and section levels.

Source: JICA Survey Team (2014)

2) Capacity Development of VSS/EDC Members

➤ Training Needs Analysis and Development of Training Modules and Materials

Rationale: The VSSs/EDCs in Wayanad district needs to be provided trainings before they start the PFM activities because their knowledge, skills and competency are not sufficient to carry out PFM by their own initiatives. In planning the training and preparing the modules and materials, it is necessary to identify which themes and areas should be a target of training, what kind of contents of training should be included, how it is implemented, etc.

Objectives: (1) To identify the themes and types of trainings for the VSSs/EDCs members necessary to be carried out before the commencement of PFM activities, (2) To prepare the training module and materials covering the needs of training identified in (1). The module and materials will be prepared in a form of booklet to be usually kept at the Project office and of papers to be delivered at the trainings.

Beneficiary: This activity will be outsourced to the competent organization which has experiences to work for PFM in Kerala State. Needs analysis and development of training modules and materials will be carried out by the same organization to keep the consistency of the analysis and the contents of modules and materials.

Work description: The following table summarises the works to be done in all types of trainings for developing the VSSs/EDCs capacity.

Work Descriptions of Training Needs Analysis and Development of Modules and Materials

Work	Description
Training needs analysis	<ol style="list-style-type: none"> 1) The outsourced agency will review the activities and achievements of VSSs/EDCs and identifies the gaps between what was planned and actual implementation. The agency will also conducts interview survey to the VSSs/EDC members to understand what they need in capacity development training in order to fully implement PFM. 2) Through reviewing the Project IP and the survey result, the agency would identify the themes and areas which should be included in the capacity development trainings. The targets of training, such as all VSSs/EDCs members, EC members or sub-group members will also be identified per each theme and area of training.
Development of training modules and materials	<ol style="list-style-type: none"> 1) According to the results of the analysis, the agency will develop the modules of training and the materials to deliver to the participants at the training. The material will also be prepared as a booklet (Project Technical Paper) to be kept at the office to be utilised thereafter. 2) The materials should be written in Malayalam and easily understandable by the VSSs/EDCs members using a lot of pictures, figures and illustrations.

Source: JICA Survey Team (2014)

➤ Trainings for the VSSs/EDCs members on the implementation of the activity

Rationale: The VSSs/EDCs in Kerala State were established by the support of Kerala Forestry Development Project funded by the World Bank during 1998 and 2004. The Project proposed the Kerala Forest and Wildlife Department (KFWD) the financial and implementation mechanism of PFM at the VSS/EDC level. However, because of the delay of establishing the fund for PFM most of VSSs/EDCs have not conducted their activities yet up to the present. There are 49 VSSs/EDCs in Wayanad district and they have to be reactivated in order to implement PFM in the Project. Several trainings are necessary to be carried out prior to the start of their activities.

Objectives: (1) To develop the total capacity of VSSs/EDCs in conducting the PFM activities within the Project frame

Beneficiary: (1) All target VSSs/EDCs. (2) Sub-group members working for specific activities (NTFP, Eco-tourism, etc.)

Work description: The following table summarises the works to be done in all types of trainings for developing the VSSs/EDCs capacity. The Project Executing Agency will employ an individual consultant as a facilitator or trainer.

Theme and Contents of Trainings

Theme	Contents
Training on group activity	<ol style="list-style-type: none"> 1) All members of VSSs/EDCs will be the target of this training. Two days training to cover the record keeping (day 1) and fund management (day 2). The contents will be general and not so specific because it targets all members. Basic knowledge will be provided to the members to understand the group management. 2) The training will be conducted two times. First training will be in the 3rd year as initiation and second one will be in the 5th year for reviewing.
Training on management of field operation	<ol style="list-style-type: none"> 1) All members of VSSs/EDCs will be the target of this training. Two days training including office trainings (day 1) and field training (day 2). The contents will be general and not so specific because it targets all members. Basic knowledge will be provided to the members to understand the management of field operation. 2) The training will be conducted two times. First training will be in the 3rd year as initiation and second one will be in the 5th year for reviewing.
Training on elephant scaring	<ol style="list-style-type: none"> 1) Around 10 members of the VSSs/EDCs employed as elephant scaring watcher will be the target of this training. It will be one day training in the field. The trainer will give the participants skills and techniques to the elephant scaring watcher. 2) The training will be conducted two times. First training will be in the 3rd year as initiation and second one will be in the 5th year for reviewing.
Training on forest fire control	<ol style="list-style-type: none"> 1) All members of VSSs/EDCs including those employed as forest fire watcher will be the target of this training. It will be one day training in the field. The trainer will give the participants skills and techniques of forest fire fighting and prevention of accidental fire in the forests. 2) The training will be conducted two times. First training will be in the 3rd year as initiation and second one will be in the 5th year for reviewing.
Training on NTFP enterprise development	<ol style="list-style-type: none"> 1) Sub-group members of VSSs/EDCs who engage in NTFP development will be the target of this training. It will be one day training. The trainer will give the participants basic knowledge and information to design and develop the business model of NTFP species collected and processed in their community. 2) The training will be conducted two times. First training will be in the 3rd year as initiation and second one will be in the 5th year for reviewing.
Skills training on NTFPs	<ol style="list-style-type: none"> 1) Non-destructive harvesting on NTFPs: Sub-group members of VSSs/EDCs who engage in NTFP development will be the target of this training. It will be two day training. The trainer will give the participants basic knowledge and technologies to do non-destructive harvesting of NTFPs collected in their community. 2) Processing technique: Sub-group members of VSSs/EDCs who engage in NTFP development are the target of this training. It is two day training. The trainer gives the participants basic knowledge and technologies to do processing of NTFPs collected in their community.
Technical	<ol style="list-style-type: none"> 1) Sub-group members of VSSs/EDCs who engage in ecotourism development will be the

Theme	Contents
training for nurture of nature guides	<p>target of this training. It will be two day training. The trainer will give the participants basic knowledge on eco-tourism in the Wayanad area.</p> <p>2) Topics of training: Day 1 (1) Rules and regulation relating ecotourism, (2) Fauna, flora and biodiversity in Wayanad,</p> <p>3) Topics of training: Day 2 (1) Cultural heritage of local societies, (2) Sightseeing spots</p> <p>3) The training will be conducted two times. First training will be in the 3rd year as initiation and second one will be in the 5th year for reviewing.</p>

Source: JICA Survey Team (2014)

(3) R&D and Dissemination

1) Survey and Research for Improvement of ANR of Understory Vegetation

Rationale: The purpose of ANR of Understory Vegetation is to assist the expansion of edible grasses as animal feeds. A critical part of this operation is to control the exotic noxious weeds by manual works. The positive effects of this operation have been gradually confirmed “*de facto*” bases in the recent years but the technologies to effectively control the weeds based on the scientific approach has not been fully developed yet. Hence the effect of weed control should be closely monitored by scientific approaches and the methodologies to control weed and assist the fodder grasses expansion have to be improved in a course of implementing the operation.

Objectives: To monitor and record the changes of ground vegetation before and after controlling weeds. To propose some trials to identify the optimum methodologies to control weeds and assist grasses regeneration, e.g. optimum intensity of controlling weeds and size of operation site, planting fodder grasses, etc.

Beneficiary: This activity will be outsourced to the competent agency in the State which has scientific expertises to conduct the field researches.

Work description: The outsourced agency will conduct the survey and proposes the improved methodologies of controlling weeds as described in the following table.

Work Descriptions of Survey and Research for Improvement of ANR

Work	Description
Survey of understory changes	<p>1) The outsourced agency will monitor the changes of ground vegetation and analyzes the effects of controlling weeds in relation to the timing, size of operation site, intensity, interactions of natural vegetation of surrounding the site, etc.</p> <p>2) The agency will also propose and conduct to plant a fodder/shrub species in weed controlled area on an experimental basis to accelerate and assure the transformation of ground vegetation.</p>
Propose the trials to seek optimum methodology	<p>1) Based on the findings in the analysis and the results of the trials the agency will propose the methodologies of controlling weeds and transforming the ground vegetation to be more suitable for feeding grounds for the wildlife.</p>

Source: JICA Survey Team (2014)

(4) Communication and Publication

The Project plans communication and public affairs in order to;

- improve understanding of the stakeholders and the public towards the Project
- promote cooperation and active participation in the Project activities
- provide useful information and skills in the related sectors for improvement of livelihood and natural resources

Planned activities to be implemented by PMU are summarized in the following table.

Summary of the Publication Plan

Plan	Project Activities
Website Development	<ul style="list-style-type: none"> - To outsource development of website on the Project in Malayalam and English to a professional website designer. Website would be developed to feature: i) Announcement for the public participation; ii) Activity report through sharing Newsletter, digitized Brochures and leaflet, Blog, Photo and short films of the Project, etc.; iii) FAQ/ Question form. - Website will be maintained by PMU. - To develop link connection between the related websites and the Project website so as to increase the visitors of the Project websites.
Public Information Drive	<ul style="list-style-type: none"> - To broadcast <u>public radio programmes</u> in order to raise awareness on the issues identified in the Project and to provide useful information for the related issues solution. - To <u>post articles</u> every year to the local major newspapers so as to report the progress and achievement of the Project. - To <u>record documentary film</u> by professional filming company, and film broadcasting at the Project websites or at public seminars to be held by PMU. Film video clip data would be shared with the stakeholders. - To convene <u>yearly public seminars</u> at the four Block Panchayats to improve understanding towards the importance of the Project and get the people energized in participation/ cooperation in the Project. - To hire <u>web advertisement space</u> of the related NGO or institutions' web sites to develop a link to the Project web site.
Publication	<ul style="list-style-type: none"> - To issue <u>bi-monthly newsletter</u> in Malayalam and English so as to provide the stakeholders with work progress. - To publish <u>quarterly and annual review</u> report in Malayalam and English to report the stakeholders on the project progress and findings based on the Project monitoring. - To develop <u>brochures and leaflets</u> on the overview of the Project at the moment, and issues in each sector to raise awareness. The brochures and leaflets would be developed with support of professional designer for advertisement.

Source: JICA Survey Team (2014)

16.2.6 Monitoring and Evaluation

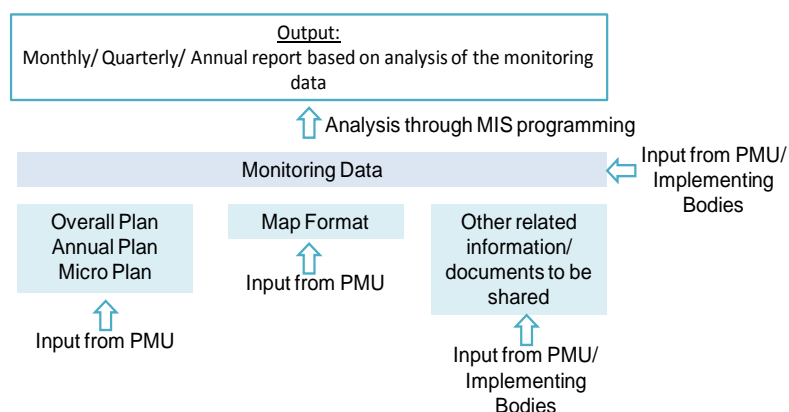
Monitoring and Evaluation (M&E) system will be established so as for effective and efficient project implementation, and adequate project management. M&E system will cover (1) preparation of M&E manual, (2) development of management information system (MIS) and project database, (3) progress monitoring and analysis, (4) annual review, (5) audit, and (6) evaluation of project impact.

(1) Preparation of M&E manual

M&E manual will be developed by PMU to share M&E method with all the implementation members. The instruction of M&E to PMU members will be conducted at the first training seminar or orientation. The instruction of M&E system to the implementing bodies will be done at the training to each implementing body and in the form of on-the-job training. The monitoring sheet format will be developed by PMU, and will be revised in accordance with the feedback from the users, i.e. implementing bodies, and progress of the Project.

(2) Development of MIS and database

Web-enabled MIS and database will be developed so that PMU can effectively monitor project progress on monthly basis and make the suitable decision at appropriate timing. Design and software of MIS, and database programme will be developed by a professional agency in close consultation with PMU. The MIS development, maintenance and utilization are managed by Assistant Director for MIS in PMU. Overview of MIS modules is given in the following figure.



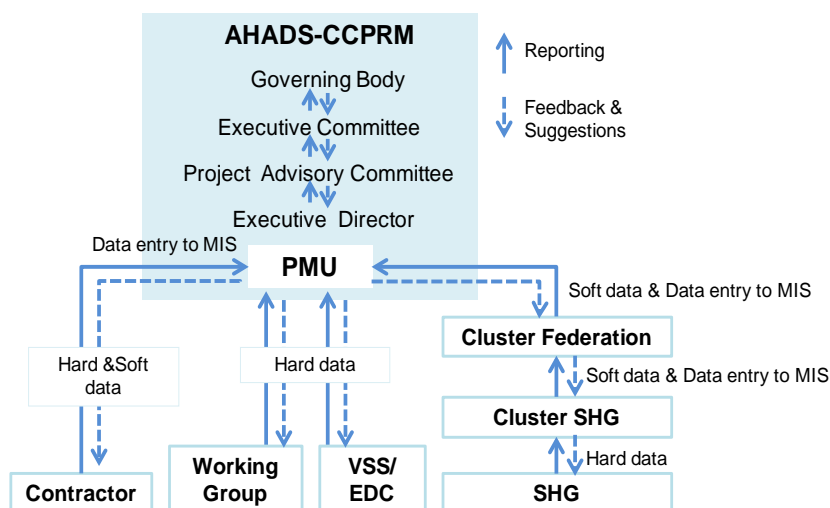
Overview of Proposed MIS modules

Source: JICA Survey Team (2014)

The information flow from the activity site to PMU utilizing MIS and database is shown in the following section. Submitted monitoring data and other periodical reporting to PMU will be entered into the form of the project database, which is programmed to link with MIS.

(3) Progress monitoring and analysis

The proposed system for reporting and progress monitoring is shown in the following figure.



Reporting and Progress Monitoring System

Source: JICA Survey Team (2014)

Fund disbursement, expenditure, physical progress will be closely monitored in the form of the predetermined formats and schedule. The Progress monitoring reports will be analysed by PMU and provide feedback and suggestions to the implementing members.

1) Weekly/ Monthly monitoring reporting

Activities progress will be recorded by the members of the SHGs, VSS/ EDC, Working Groups (WG), and Contractors at weekly basis as follows.

Proposed Plan of Progress Monitoring and Reporting

In Charge	Monitoring	Reporting
SHG	<ul style="list-style-type: none"> Number of formed IGA development plan Number of formed SHGs, Cluster SHGs 	Submit to Cluster SHG monthly in hand writing hard data based on the

In Charge	Monitoring	Reporting
	<ul style="list-style-type: none"> Number of the members of SHGs Additional income of SHG members from the IGAs Sales volume of the IGA products manufactured by SHGs Profit earned from IGA activities Number of the programmes/ schemes linked with the Project Number of the participants in the trainings Number of the SHG members working at the CFC Number of the members attended meetings and training programmes Number of meetings held by SHG Amount of internal savings and lending status of record books 	<p>record kept by SHGs on daily basis.</p> <p>Monitoring data compilation will be supported by Field coordinators.</p>
Cluster SHG	<ul style="list-style-type: none"> Compilation of monthly report from SHGs at the Cluster SHG level Operational status of corpus fund (balance amount, repayment progress) Number of held meetings and participants Confirmation of keeping status of record books 	Submit to Cluster Federation monthly in soft data & input to MIS
Cluster Federation	<ul style="list-style-type: none"> Compilation of weekly report from cluster SHG level Number of meetings held and participants Confirmation of keeping status of record books Number of field visits conducted by the Field Coordinators 	Submit to PMU monthly in soft data input to MIS
Livelihood Support Services	<ul style="list-style-type: none"> Number of field visits conducted by the Community Social Workers Number of programmes linked with the SHGs Contents delivered during the field visits by the Community Social Workers Other action specific indicators 	Monthly report of Community Social Workers
VSS/EDC	<ul style="list-style-type: none"> Number of newly formed VSSs and EDCs Number of rearranged and activated VSSs and EDCs Number of developed Micro Plan Size of the forests treated for ANR Number/ location/ quality of developed water post Location/ area/ size of elephant proof fences Number of employed watchers to prevent elephant attack Sales of NTFP products Volume of NTFP collection Benefit and cost of NTFP product sales Forest fire outbreak status Area/ length of the improved/ developed roads or trails for eco-tourism development Progress of the construction of eco tourism centre etc. Number of the participants in the trainings 	<p>Submit monthly to field officer in charge in soft data.</p> <p>Input of the recorded monitoring data to MIS will be done by the field officers based on the submitted monitoring data.</p>
WG for access road construction	<ul style="list-style-type: none"> Progress of the construction Record of safety management during the construction work Number of the participants in the trainings 	<p>Submit weekly to field officer in charge in hand writing hard data.</p> <p>Record keeping will be helped by the employed field consultants.</p>
WG for school toilet	<ul style="list-style-type: none"> Progress of the construction Record of safety management during the construction work 	Input of the recorded monitoring data to MIS will be done by the field

In Charge	Monitoring	Reporting
	<ul style="list-style-type: none"> Number of school whose toilets are renovated Number of the participants in the trainings 	officers based on the submitted monitoring data.
Contractor for bridge construction	<ul style="list-style-type: none"> Progress of the construction Record of safety management during the construction work 	Submit weekly to field officer in charge in hand writing hard data and soft data.
Contractor for upgrading medical care equipments	<ul style="list-style-type: none"> Number of each installed medical equipment Location and other basic information of the equipped CHCs/ PHCs Number of the visitors of the CHCs/ PHCs whose medical equipments are upgraded 	Input of the recorded monitoring data to MIS will be done by the field officers based on the submitted monitoring data.
PMU	<ul style="list-style-type: none"> Analysis of the submitted monitoring reports, Compilation of all the progress monitoring reports from the implementing bodies 	Submit to AHADS ED monthly in soft data+ input the analysis result to MIS

Source: JICA Survey Team (2014)

Financial status will be reported monthly to PMU in soft data and through MIS so as to share the following financial status: i) Amount allocated to each activity; ii) Details of spent amount; iii) balance; and iv) future requirement of funds.

2) Quarterly review

Based on the monthly monitoring reports, PMU will conduct quarterly reviews, evaluate the output as far as possible, and compare the progress of each activity with the target of the action plan. The quarterly review report will be submitted to the members of the authorities of AHADS-CCPRM such as the executive committee, the advisory committee, and the governing body.

3) Annual Review

Based on the monthly report and quarterly review report, PMU will review annual project activities, evaluate the outputs on each target, and analyse the issues in the activities. PMU will convene an annual review meeting to share the project progress and the issues to be discussed. This meeting would be chaired by Executive Director of AHADS-CCPRM, facilitated by Joint Executive Director of PMU, and attended by the representatives of Cluster SHG, WG, VSSs and EDCs, and representatives of concerned Grama/Block Panchayat, departments, and other institutions. Annual review report including the annual review meeting record will be submitted to the attendees of the meeting, the authorities of AHADS-CCPRM, Grama/ Block/ District Panchayat presidents, district officers of the concerning departments and other stakeholders, etc.

4) Audit

In order to monitor financial status, three types of audit; statutory audit, social audit and internal audit are planed as follows.

Proposed Audit Plan for the Project Monitoring

Audit Type	Description
Statutory Audit	<ul style="list-style-type: none"> - Auditor: Chartered and qualified auditor and auditor General of the State Government - Audit target: Fund utilization by each implementing body. Accounts of the implementing bodies, accounting books, and other documents on financial status - Once Every financial year
Social Audit	<p>One day meeting participated by all the members of each implementing body such as SHG, working group, VSS, etc. will be held in order to share the issues on the financial management raised by the members, and find solutions for the problems. Proceedings of the social audit will be compiled by PMU members and shared by PMU, the members of the bodies, and other stakeholders.</p> <ul style="list-style-type: none"> - Facilitator: Related PMU members such as federation manager or field officer, - Audit target: every implementing body of the Project - Every year
Internal Audit	<ul style="list-style-type: none"> - Auditor: Accountant of PMU and assistant accountings - Audit target: Fund utilization by each implementing body. Accounts of the implementing bodies, accounting books, and other documents on financial status will be audited. - Every six month

Source: JICA Survey Team (2014)

5) Evaluation of project impact

In order for the evaluation of the both of physical and socio economic impact, baseline survey and impact survey will be conducted by outsourced survey team in collaboration with PMU. Impact survey will be conducted in the 5th and 9th years of the Project, in the same way as the baseline survey. The following surveys will be conducted for project terminal evaluation in addition to the progress monitoring.

Summary of Surveys for Project Impact Evaluation

Description of the Baseline Survey topics	
Natural Environment Improvement Work	<ul style="list-style-type: none"> - Ground vegetation in the targeted areas for assisting natural regeneration by field survey - Frequency, damage situation caused by elephants around the targeted area by hearing survey to those who live near the place where elephant attack occurs - Area of forest fire, causes and damage by hearing survey to forest watcher, beat forest officer and others who lives near/ inside the forests
Facilities improvement of CHCs/ PHCs	<ul style="list-style-type: none"> - Number of each medical equipments, and their condition by hearing survey to the CHC/ PHC staff - Number of the visitors of the targeted CHCs/ PHCs by hearing survey to the target CHC/ PHC staff and information collection from CHC/PHC staff
Livelihood Improvement	<ul style="list-style-type: none"> - Sales of IGA and NTFP products - Socio economic condition of SHG members by Questionnaire household survey through individual interview and comprehensive statistical analysis

Source: JICA Survey Team (2014)

16.2.7 Phase-Out/ Phase-In Works

The Phase-Out is the withdrawal of the Project support to the People's Institutions (PIs) and from the Project area and prepare for the completion of the Project. At the same time, the AHADS-CCPRM will hand over the assets created by the Project to the respective owners and links People's Institutions to appropriate supporting schemes/ organisations. The Phase-Out/ Phase-In Stage for this Project is scheduled in Year 8 and 9. The tasks to be undertaken by AHADS-CCPRM are outlined below.

(1) Issuance of Project Completion Certificate

As the works will be executed based on the contract exchanged between AHADS-CCPRM and PIs, the work done will be evaluated and completion certificate will be issued. Field verification will be

conducted jointly by the staff of AHADS-CCPRM and representatives of the PIs. The results of the field verification will be validated by the members of PIs.

(2) Defining Owners of the Assets and Responsibilities of Operation and Maintenance

The owners of the assets created by the Project will be clearly defined at this stage. The owners will work out the operation and maintenance arrangement and responsibilities. This exercise will include assets created by the Project for the PIs. If any capacity enhancement is required for Operation and Maintenance in the post project period, the Project shall organise relevant capacity development programmes.

(3) Preparation of Phase-Out/ Phase-In Plan for People's Institutions

i) Assessment of Achievement and Further Capacity Development

A participatory exercise to confirm the achievement of the Project will be conducted at the beginning of the Phase-Out/ Phase-In stage. If any further requirement for capacity development is identified through the exercise, AHADS-CCPRM will undertake necessary capacity development during the 8th and 9th years.

ii) Identification of Suitable Support Organisations and Building Linkage

The AHADS-CCPRM will identify suitable support organisations in Wayanad district that can continue to support the PIs formed under the project. Once such organisations are identified, AHADS-CCPRM shall negotiate the conditions and establish the linkage. The final agreement shall be documented accordingly.

(4) Inventory of Assets

Any assets created and purchased by the Project fund shall be documented for its specification, quantity and conditions. When handing over such assets to institutions outside of AHADS-CCPRM, such should be documented on record.

16.2.8 Consulting Services

(1) Rationale

As AHADS-CCPRM has no longer experienced staff other than one Deputy Project Director of former AHADS and there is no guarantee that the experienced staff of AWCECOP will return to work with AHADS-CCPRM, it is inevitable for AHADS-CCPRM to recruit most of the positions in the Project Management Unit (PMU) in Wayanad. The project activities encompass infrastructure development, forestry and wild-life conservation and livelihood improvement, each of which requires specialised technical supervision and inputs. Further, in order for the project activities to progress as scheduled, the managerial support for the project is also required.

(2) Tentative Scope of Work

The Project Consultant is expected to provide the Executing Agency (AHADS-CCPRM) and PIs with overall technical and managerial assistance in Project implementation for the effective and efficient implementation of the project activities and to achieve the intended outputs. Tentative Scope of Work is briefed as below.

- i) Assist Executing Agency in pursuing effective and efficient project management
- ii) Assisting Executing Agency in formulating a comprehensive plan of operation
- iii) Assisting Executing Agency in preparing various guidelines, manuals and booklets
- iv) Assisting Executing Agency in developing Monitoring System and MIS
- v) Assisting the Executing Agency and People's Institutions in procuring necessary equipment
- vi) Assisting the Executing Agency in fund management and smooth communication between the Executing Agency and the donor agency
- vii) Providing technical assistance to Executing Agency, People's Institutions, contractors and NGOs in the execution of their works in preparatory works, capacity development,

community organising, micro-planning/annual implementation planning, work quantity estimation, NWFP development, IGA/micro-enterprise development, wildlife conservation and management and phase-out/phase-in works

- viii) Assisting the Executing Agency and People's Institution in ensuring sustainability of the Project.

Tentative Terms of Reference for the Consulting Services are given in **Attachment II 16.2.3**.

(3) Specialists Input

Consulting services will be planned for nine years from the second through the 9th year. The suggested inputs by the international consultants are 180 Person Months and 405 Person Months for the national consultants. Short Term Specialists may be input in relation to R&D activities, which would require academic knowledge, practically experienced knowledge, etc.

Person-Months to Cover the Proposed Main Components of the Project

International		National	
Position	Person Months	Position	Person Months
Team Leader (Community Development)	63	Co-Team Leader (Livelihood)	88
Community Infrastructure/ Contract Management	59	Enterprise Development/ Marketing	73
Forestry Expert	42	Eco tourism	23
Short Term Specialists as required	16	Participatory Forest Management /Wildlife Management	54
		NTFP development	42
		Monitoring & Evaluation/ MIS	36
		Environment and Social Safeguard	18
		Community Infrastructure- Civil Engineer	71
Total	180		405

Source: JICA Survey Team (2014)

16.3 Operation and Maintenance in the Post-Project Period

The operation and maintenance of the assets created and equipments procured by the Project shall be managed by the owners and users by themselves. The parties responsible for operation and maintenance are defined as below. They will be sufficiently trained during the phase-out/ phase-in works stage for the sustainable operation and maintenance of such assets and equipments for the sustained benefits.

Proposed Operation and Maintenance Framework in the Post-Project Period

Project Components	Assets proposed to be created/ Equipments to be procured	Operation	Maintenance
Livelihood Improvement Work	CFC building, furniture and Equipments required for IGA	Cluster level organisation	Cluster level organisation
	Corpus Fund (non dairy)	Cluster level organisation	Cluster level organisation
	Corpus Fund (dairy)	SHGs	SHGs
Natural Environment Improvement	VSS/ EDC Office building/ furniture	VSS/ EDCs	VSS/ EDCs
	Improved Animal Habitat	Forest Department	Forest Department
	Protection Facilities	Forest Department	Forest Department
	Fire control line	Forest Department	Forest Department

Community Infrastructure	NTPP processing unit	VSS	VSS
	Infrastructures for eco tourism	Forest Department	Forest Department
	Houses	Beneficiary	Beneficiary
	Roads & Bridges	Beneficiary community	Beneficiary community
	School Toilet	PTA	PTA
	Medical equipments	PHC/ CHC	PHC/ CHC

Source: JICA Survey Team (2014)

16.4 Implementation Schedule

Assuming that a loan for the Project implementation would become effective by the end of the first quarter following the loan agreement (L/A), which is anticipated to be signed at the end of the year-zero. Immediately after signing the L/A, procurement of project management consultant (PMC) will be commenced and completed by the end of the first year. Preparatory works for the implementation of main components will be commenced one year ahead of the implementation and last five years (from second to 6th years). Implementation of the main components such as livelihood improvement work, natural environment improvement work and community infrastructure development work will be carried out in five years from the third to 7th years. For the 8th and 9th years, Project activities will be concentrated to phase-out / phase-in work to secure sustainability of the Project for the post project period. Thus total project period is expected to be nine year as shown in the following table.

Overview of the Implementation Schedule

Work Component	Year of Implementation									
	0	1st	2nd	3rd	4th	5th	6th	7th	8 th	9th
0. Fund arrangement	—									
1. Procurement of PMC		—								
2. Institutional arrangement		—								
3. Preparatory works			—	—	—	—	—			
4. Institutional strengthening			—	—						
5. Capacity development			—	—	—	—				
6. Livelihood improvement work				—	—	—	—	—		
7. Natural environment improvement work				—	—	—	—	—		
8. Community infrastructure development work				—	—	—	—	—		
9. R&D and dissemination					—	—	—	—		
10. Communication and publication				—	—	—	—	—	—	
11. Monitoring and evaluation				—	—	—	—	—	—	
12. Phase-out / phase-in work									—	—
13. Consulting services			—	—	—	—	—	—	—	—

Source: JICA Survey Team

Detailed implementation schedule is shown in **Attachment II 16.4.1**.

16.5 Procurement and Implementation Method

As discussed in the previous **Section 16.2.4**, proposed main project components consist of: i) income generation / livelihood improvement; ii) natural environment improvement; and iii) community infrastructure development. Each of the main components is basically independent, and hence they have a tenuous organic integration as a project. Further, each of them is different in its nature. Activities relating to the income generation / livelihood improvement are non-area based ones for the vulnerable among BPL households. Activities for natural environment improvement are likely area based and their beneficiaries expected are local people. The community infrastructure development component has five sub-components of: i) housing for vulnerable, ii) procurement of medical check

and treatment equipment to CHCs and PHCs; iii) renovation of toilet in school for the selected lower primary schools; and iv) access roads and small/suspension bridges for the concerned hamlets/colonies. Therefore, intervention sites of the last component will be scattered across the district.

In terms of implementing body, majority of Project activities will be implemented by PIs except for the activities that would be beyond the capacity of the PIs, for which local contractors and/or suppliers will be procured.

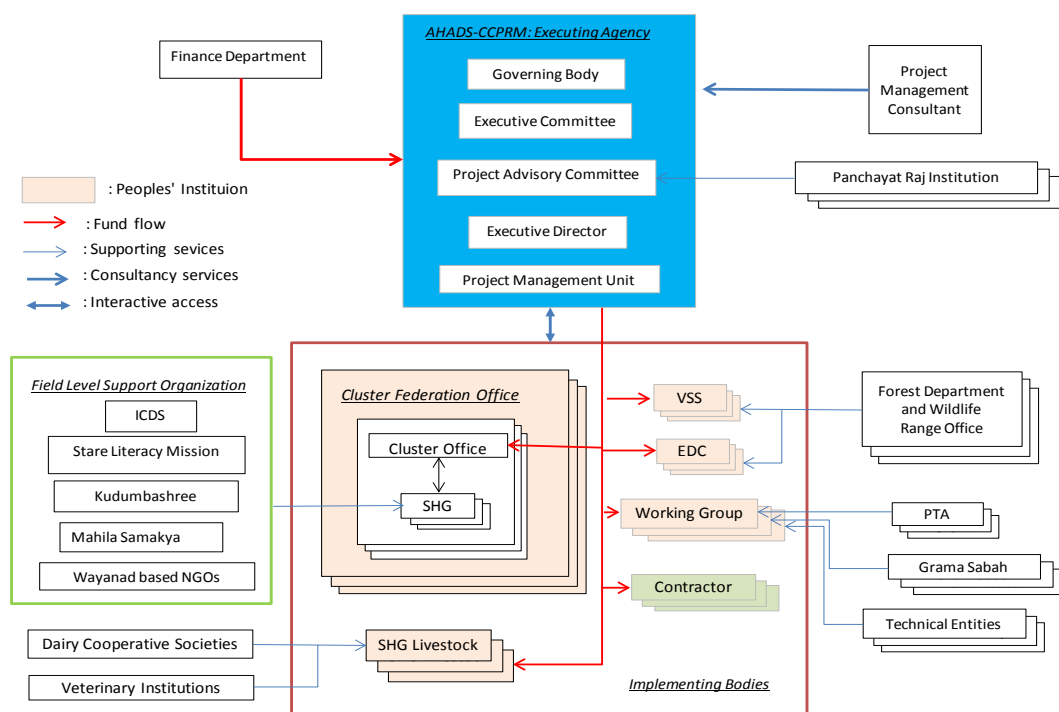
Details of the procurement and implementation method of the Project activities are given in **Attachment II 16. 5.1 in Volume II.**

16.6 Institutional Arrangement for Project Implementation

16.6.1 Implementation Framework

(1) Structure of the Implementation Framework of the Project

For effective project implementation and management, the structure of the implementation framework is proposed as follows.



Implementation Framework for Project Implementation

Source: JICA Survey Team (2014)

Key players of the Project will be the executing agency on one side and the implementing bodies on the other side. The expected executing agency will be AHDAS-CCPRM as proposed in DPR, while the expected implementing bodies will be peoples' institutions (PIs) for most of work components and contractors for limited part of works that would not be appropriate to be implemented by the PIs.

Within AHADS-CCPRM, a project management unit (PMU) is proposed to be created exclusively for implantation of the Project in Wayanad as AHADS-CCPRM headquarter being located in Agali in Palakkad District is geographically too far away from the Project site and hence inconvenient for doing daily operation and management of the Project. The PMU, therefore, will be fully responsible for daily operation and management of the Project. Details of the PMU will be described in the subsequent **Section 16.6.2.**

PIs to be organised will consist of SHGs for implementation of livelihood improvement work, VSSs/EDCs for implementation of natural environment improvement work, and working groups for implementation of housing, access road construction and part of renovation of school toilets.

In order for the PIs to function as designed, technical and managerial support are expected to be provided by relevant government agencies, NGOs, and private technical entities. Project management consultant will be hired by the executing agency to provide the executing agency with consultancy services both for the technical and managerial aspects.

(2) Roles and Responsibilities of the Constituent Institutions of the Implementation Frameworks

The roles and responsibilities of the constituent institutions are summarized below.

Roles and Responsibilities of each Constitution of the Structural Organization of the Framework

Constitution	Roles and Responsibilities	
AHADS-CCPRM	Refer to Section 2.1	
PMU AHADS-CCPRM	<ol style="list-style-type: none"> 1) Final decision maker with regard to implementation of the Project 2) Prepare annual action plan and prepare budget requirement accordingly 3) Pursue the action plan within the budget allocated for the Project 4) Control and manage outlay of the Project activities 5) Provide technical and managerial guidance to the PIs for the Project activities 6) Monitor physical and financial progress of the Project 7) Oversee money management of PIs 8) Capacity building required for PIs as the implementing bodies 	
Forest and Wildlife Department	<ol style="list-style-type: none"> 1) Provide assistance and advice to PMU on technical and managerial aspect concerning VSS/EDC related matters 2) Guide and facilitate implementation of natural environment improvement work by VSS/EDC as the member secretary of VSS/EDC 3) Grant entitlement of Project activities within the state forestland in Wayanad to PMU 4) Give approval of micro plans submitted by VSSs/EDCs 	
Panchayat Raji Institutions	Participate in the Project as members of Project Advisory Groups	
Grama Panchayat	Assist PMU in identifying candidate lower primary schools for renovation of the existing toilet facilities	
Grama Sabhas / Oorkoottams	<ol style="list-style-type: none"> 1) Assist PMU in the following for the Project 2) Identifying households eligible for SHG members 3) Identifying candidate sites for access roads / small bridges construction 4) Forming working groups for access road construction and housing work 	
P.T.A	<ol style="list-style-type: none"> 1) Assist PMU in forming working groups for the renovation of existing toilet facilities for the selected lower primary schools 	
Field level supporting organization	Refer to Section 16.2.4	
Dairy Cooperative Societies/ Veterinary Institutions	Work closely with PMU in developing capacity of dairy SHGs and marketing of their produces	
Technical Entities	Provide assistance and advice to the working groups for construction work	
SHG	Implement IGA and livelihood improvement component	➤ Refer to Section 16.2.4
Cluster level organisations of SHG	<ol style="list-style-type: none"> 1) Establishment of CFCs 2) Management of corpus fund 3) Responsible for production activities and marketing 	

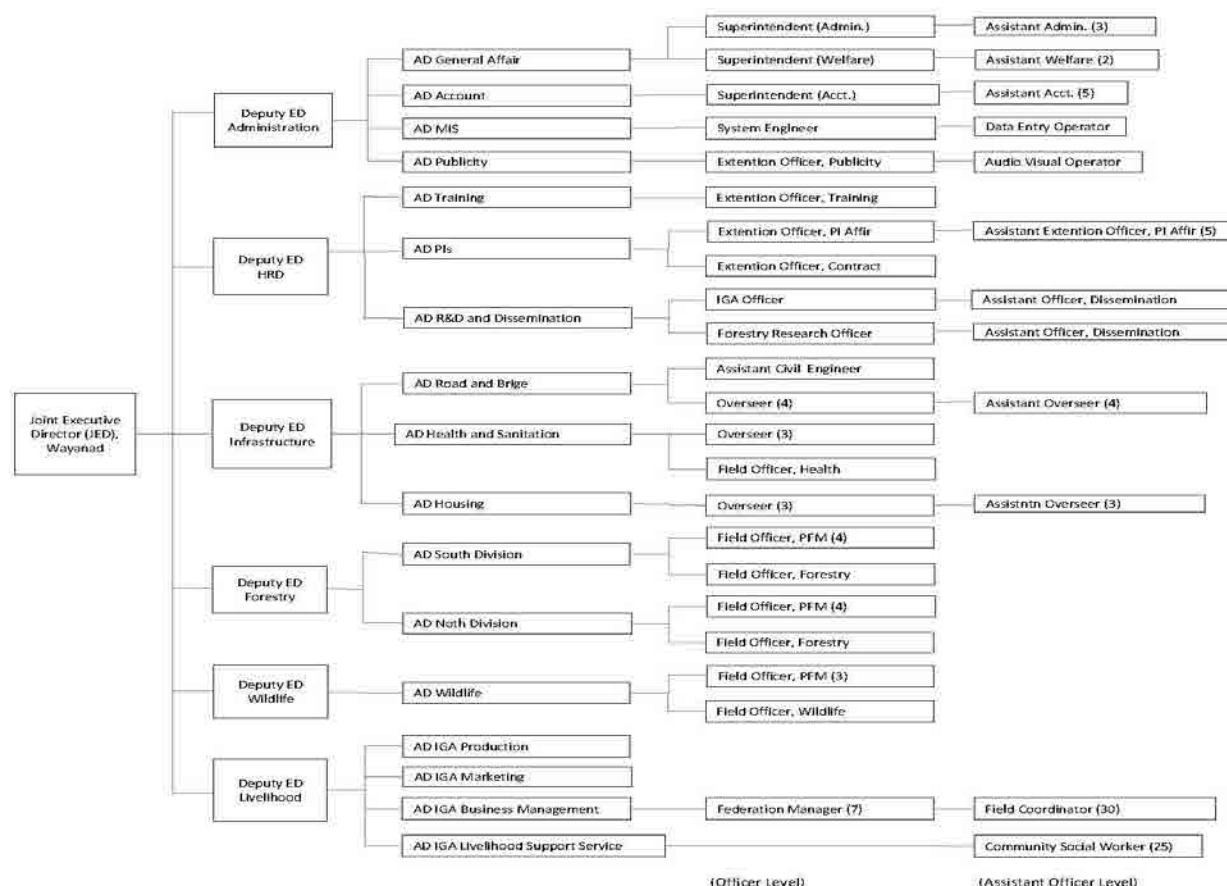
Constitution	Roles and Responsibilities	
Cluster Federation	Monitor the performance and management of cluster level organisations of SHGs	
VSS/ EDC	Implement NTFP collection and sales for NTFP based IGA, improvement of animal habitat, installation of facilities for protection of elephants attack, and forest fire control under supervision of PMU	➤ Refer to Section 16.2.4
Working Group	Construct houses and access roads, and part of school toilet renovation work under supervision of PMU	
Project Management Consultant	Provide assistance and advice to PMU on technical and managerial aspects required for the smooth and effective Project implementation	

Source: JICA Survey Team (2014)

16.6.2 Institutional Setup for Project Implementation

(1) Project Management Unit in AHADS-CCPRM

Proposed structure of the Project Management Unit (PMU) in AHADS-CCPRM is given in the following figure.



Proposed Structure of Project Management Unit

Source: JICA Survey Team (2014)

PMU consists of mainly six divisions. The roles of the divisions/ sections are summarized as follows.

Role of the Divisions/ Sections of PMU

Division/ Section	Role
(1) Administration Division	Responsible for office administration, accounting, MIS and database management and utilization, communication and publicity activity, welfare for the PMU members and implementing bodies members
(2) Human Resource Development (HRD) Division	
- Training section	Monitor progress of training plan for PMU staff members and PI members as well and manage the training to be basically outsourced to competent and experienced organizations.
- PI section	Manage all PI related issues and control contracts with the PIs.
- R&D and Dissemination section	Responsible for R&D activities, IGA/ NTFP development (value addition, marketing, etc) and for development of improved technology for ANR for restoration of understory vegetation invaded by exotic weeds.
(3) Forest Division	Responsible for plan, design and construction of natural environment improvement work in relation to the forestlands under the jurisdiction of South Wayanad Division and North Wayanad Division.
(4) Wildlife Division	Responsible for plan, design and construction of natural environment improvement work in relation to the forestlands under the jurisdiction of Wayanad Wildlife Division.
(5) Infrastructure Division	
- Road and bridge section	Responsible for site selection, plan, design and construction of the access roads and small bridges for the access roads.
- Health and Sanitation section	Responsible for selection of target lower primary schools, plan, design and construction/procurement of: i) upgrading medical care equipment of the CHCs and PHCs; and ii) renovation of school toilets.
- Housing section	Responsible for selection of target households, plan, design and construction of houses for the selected vulnerable.
(6) Livelihood Division	-Responsible for forming SHGs, Cluster of the SHGs and federation of the SHGs -Responsible for IGA plan formulation, production, marketing, and business management -Responsible for SHG livelihood support

Source: JICA Survey Team (2014)

Qualification and job description of key PMU position are summarized in the following table. The other PMU members, who has experience of the similar position for more than three years will be recruited from basically open market.

Proposed Key Positions of PMU

Designation	Mode of Recruitment, Qualification and Job Description
JED Wayanad	• Deputation post from LSGD, Secretary level IAS • Head of PMU Wayanad, who takes responsibility of overall project management and other tasks vested by the authorities and Executive Director of AHADS-CCPRM
DED Administration	• To be recruited from open market • Head of administration division, which consists of four sections: general affairs, accounting, MIS, and publicity
DED Human Resource Development (HRD)	• To be recruited from open market • Head of HRD division, which is composed of three sections: training, peoples' institution (PI), and research & development (R&D) and dissemination
DED Infrastructure	• To be recruited from open market • Head of infrastructure division, leading the following three sections: road and bridge, health and sanitation, and housing sections.
DED Forestry	• To be additional charge of the CF who exercise jurisdiction over Wayanad • Head of Forestry division composed of South Division and North Division sections.

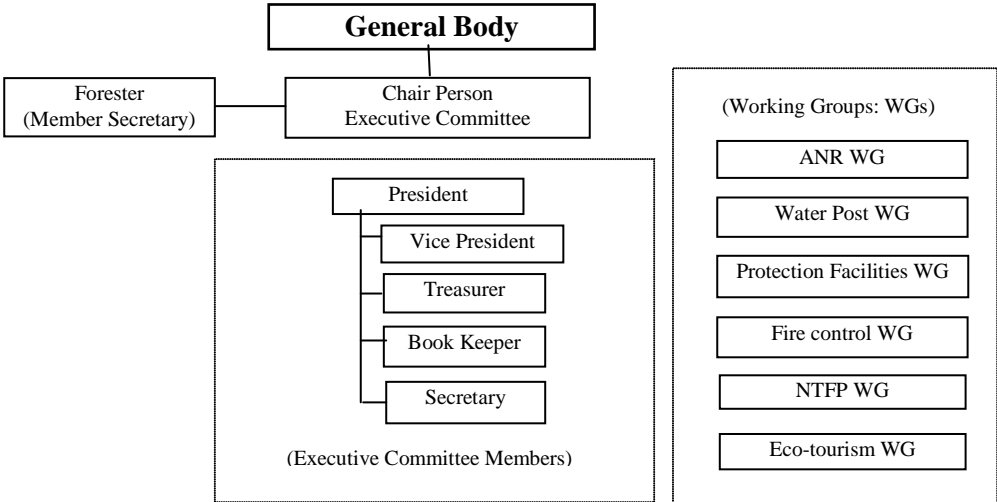
Designation	Mode of Recruitment, Qualification and Job Description
DED Wildlife	<ul style="list-style-type: none"> To be additional charge of the CF Wildlife who exercise jurisdiction over Wayanad Head of Wildlife division.
DED Livelihood	<ul style="list-style-type: none"> To be recruited from open market Head of Livelihood division comprised of four sections (IGA related four sections, namely IGA Production, IGA Marketing, IGA Business Management, and Livelihood Support Service sections). Each section is headed by AD. DED will have the well rounded experiences of SHG based livelihood improvement as well as the entrepreneurship and business management. 10 years of relevant experiences are expected. DED provides the overall technical and managerial supervision to all the sections.
AD Production/ AD Marketing/ AD Business Management	ADs heading IGA Production, IGA Marketing, and IGA Business Management will have a minimum professional experience of 7 years in the enterprise development and management. They will provide technical guidance to the SHGs operating under the project.
AD Livelihood Support Service	AD Livelihood Support Service will have a minimum professional experience of 7 years in the rural development and social work. The AD will have the capability to interact with various stakeholders and facilitate the process of convergence.
AD South Division/ AD North Division	Section chief to be referred to as Assistant Director (AD), will be assumed by the Division Forest Officers concerned as an additional post of his own.
AD Wildlife Division	The AD concerned will be assumed by the Wayanad Wildlife Division Officer concerned as an additional post of his own.

Source: JICA Survey Team (2014)

(2) Peoples' Institutions

As stated in preceding Section 16.6.1, peoples' institutions (PIs) will be formed as the implementing bodies of the various Project activities. The following table shows institutional set up of the proposed PIs.

1.	SHGs for non dairy based livelihood activities
(1)	Number of SHGs: 300
(2)	Member of SHG: 10 members selected among vulnerable households with an assistance of the Grama Sabha / Oorukoottam concerned Chairpersons, vice chair persons, secretary and treasurer will be elected among the members to constitute an executive committee.
(3)	Key function: to undertake IGA and other livelihood activities as a basic unit of non dairy based IGA
2.	Cluster of the SHGs stated above
(1)	Number of cluster: 30
(2)	Member of the cluster: 10 SHGs per cluster
(3)	Management of the cluster: Cluster management committee comprising of elected members of the member SHGs
(4)	Key function: i) Product based unit of the SHGs for production and marketing ii) Receiving and managing Project fund provided by PMU iii) Establishing and Managing the common facility centres
3.	SHGs for dairy based livelihood activities
(1)	Number of SHGs: 52
(2)	Member of SHG: 10 members selected in accordance with selection criteria with an assistance of the Grama Sabha / Oorukoottam concerned
(3)	Key function: i) Unit of dairy based IGA ii) Receiving and managing Project fund provided by PMU
4.	VSSs/EDCs for natural environment improvement work
(1)	Number of VSS: existing VSS=35, new VSS=6 Number of EDC: existing EDC=14, new EDC=4
(2)	Member of VSS/EDC: Local people adjacent to the concerned PFM area delineated by the Forest/Wildlife Division

(3)	<p>Structure of VSS/EDC:</p>  <p><i>Note: Vice President shall be the opposite gender of the President.</i> <i>Source: JICA Survey Team (2014) based on "Participatory Forest Management Guideline, 2006". Forest and Wildlife Department, Government of Kerala.</i></p>
(4)	<p>Key functions:</p> <ul style="list-style-type: none"> i) Unit of implementing body for natural environment improvement work ii) Selecting working group members from the member of VSS/EDC iii) Receiving and managing fund provided by PMU for the project implementation
5.	Working group for community infrastructure development work (Access roads, innovation of school toilet)
(1)	<p>Number of Working Groups for:</p> <ul style="list-style-type: none"> i) Access road construction: to be decided after site selection: to be decided during the preparatory work for the implementation ii) Innovation of school toilet: 25 working groups
(2)	<p>Members of Working Groups for access road construction</p> <ul style="list-style-type: none"> i) Members will be selected from the colony/hamlet identified to be a beneficiary of access road construction ii) Member selection will be made by PMU with the assistance of the Grama Sabha / Oorkutam concerned <p>Members of Working Groups for innovation of school toilet</p> <ul style="list-style-type: none"> i) Member will be selected from households of the pupil of the school concerned. ii) Member selection will be entrusted to P.T.A.
(3)	<p>Key functions</p> <ul style="list-style-type: none"> i) Working unit as the implementing body ii) Contract of undertaking the works will be exchange between PMU and the working group. iii) Receiving and managing fund provided by PMU for the implementation of the work entrusted

Source: JICA Survey Team

16.7 Managerial Arrangement

16.7.1 Budgetary Arrangement

As per the institutional arrangement for the project implementation, the project funds will be given from Finance Department of GoK to PMU through AHADS-CCPRM based on the annual action plan and its financial plan approved by the authorities of AHADS-CCPRM. PMU will provide the project fund to the PIs through bank remittance according to the contract amount agreed between the PMU and PIs.

16.7.2 Accounting Procedures for Peoples' Institution (PI)

The PI of the implementing bodies, which receive the project funds from PMU, will operate separate bank accounts in the nationalized banks for the Project. The funds from the PMU bank account will be transferred to the designated bank accounts of each PI and cluster SHG office. In order to monitor and

record the utilization of the withdrawn funds from the accounts, the PIs shall keep bank book and all other required financial records on a daily basis. Monthly financial reports as directed by PMU should be submitted to PMU so as to maintain the transparent fund flow. PMU will adopt a uniform accounting procedures based on at all level, i.e. PMU, and PIs. PMU will develop an operation manual including rules for the unified accounting procedure.

Chapter 17 Environmental and Social Safeguards

17.1 Description of Sub-Components likely to be Proposed for Financing the Project

As described in the **Chapter 16** of the DFR, most of the proposed components are socio-economic related activities and no large scale infrastructure development is proposed. However, some small infrastructure developments are within the scope of the Project. For the purpose of preliminary scoping, proposed infrastructure activities, described in the DFR, are extracted and summarised as shown in the table below.

Proposed Component to be Examined for Environmental and Social Considerations

Component	Activity/ Sub-Component	Q'ty	Unit	Likely Category*
I. Institutional Arrangement and Setting Up Executing Agency	The component does not include infrastructure development, and all activities are related to the establishment of organizational structure of PMU by recruiting/deploying staff, setting up office space, etc. Therefore, they are likely to have minimal or little adverse impact on the environment and society.	N/A	N/A	C
II. Preparatory Work	The component does not include infrastructure development, and all activities are related to the planning of sub-projects; such as selection of target/beneficiary, target intervention areas etc. Therefore, they are likely to have minimal or little adverse impact on the environment and society.	N/A	N/A	C
III. Institutional Strengthening	Construction of VSSs/EDCs Office Building	20	l.s.	B or C
	Construction of CFCs for each Cluster	75	CFC	
IV. Capacity Development	The component does not include infrastructure development, and all activities are related to the capacity development to acquire skills and knowledge required to implement the project activities, as well as to create awareness. Therefore, they are likely to have minimal or little adverse impact on the environment and society.	N/A	N/A	C
V. Livelihood Improvement Work	The component does not include infrastructure development, and all activities are related to providing alternative sources of income to villagers. Therefore, they are likely to have minimal or little adverse impact on the environment and society.	N/A	N/A	C
VI. Natural Environment Improvement Work	Construction of embankment and waterway by VSSs and EDCs members	160	No.	B or C
	Construction of elephant proof stone wall by the VSSs/EDCs members	7	km	
	Construction of elephant proof rail fence by the contractor	1.5	km	
	Construction of elephant proof solar power fence by the contractor	200	km	
	Establishment of Processing Unit	10	l.s.	
	Improvement/development of roads inside forestland	100	km	
	Development of interpretation centre	10	No.	
VII. Community	House Construction	1,000	l.s.	B or C

Component	Activity/ Sub-Component		Q'ty	Unit	Likely Category*
Infrastructure Development Work	Access Road and Bridge Construction	i. Access Road	150	km	
		ii. Footpath	30	km	
		iii. Concrete Bridge	25	km	
		iv. Pedestrian Bridge	10	km	
		v. Steel Truss Bridge	10	km	
		vi. Suspension Bridge	5	km	
VIII. Research & Development and Dissemination	The component does not include infrastructure development, and all activities are related to R&D; to generate useful technologies and knowledge for the project implementation. Therefore, they are likely to have minimal or little adverse impact on the environment and society.		N/A	N/A	C
IX. Communication and Publication	The component does not include infrastructure development, and all activities are related to enhance awareness of the public. Therefore, they are likely to have minimal or little adverse impact on the environment and society.		N/A	N/A	C
X. Monitoring and Evaluation	The component does not include infrastructure development, and all activities are related to monitoring and evaluation of the project activities. Therefore, they are likely to have minimal or little adverse impact on the environment and society.		N/A	N/A	C

* As per the JICA Guidelines for Environmental and Social Considerations (2010)

Source: JICA Survey Team (2014)

17.2 Preliminary Environmental Scoping for Proposed Sub-Components

17.2.1 Environmental Scoping Matrix for the Proposed Project

Preliminary environmental and social scoping clarifies conceivable environmental and social impacts caused by the proposed sub-projects. The summary of environmental and social impact rating for the proposed sub-projects is indicated in the table below. It is noted that evaluation in the matrix is made in the case where any adequate mitigation measure will be not conducted. Details on the scoping will be examined in the preparation stage of the Project, when sub-projects will be clarified, by consultation with relevant agencies, local self governments and local communities.

Environmental Scoping Matrix for the Proposed Sub-projects

	No	Impact Items	Overall Rating	Project-related Activities							
				Planning / Design Phase		Construction Phase			Operation Phase		
				Land acquisition	Change of land use plan, control of activities by construction-induced regulations	Tree cutting	Alteration to ground by cut land, filling, drilling etc.	Operation of construction equipment and vehicles	Structural measures for soil/water conservation, eco-restoration structures	Village road, small bridge, sanitation facilities	Housing and project infrastructure
Social Environment*	1	Involuntary resettlement	-	-	-	-	-	-	-	-	-
	2	Local economy such as employment and livelihood, etc.	C+	-	-	-	-	C+	C+	C+	-
	3	(Surrounding) Land use	-	-	-	-	-	-	-	-	-
	4	Transportation	-	-	-	-	-	-	-	-	-
	5	Existing social infrastructures and services	B+	-	-	-	-	-	B+	B+	B+
	6	Regional severance	-	-	-	-	-	-	-	-	-
	7	Socially vulnerable groups such as ST, SC and other backward classes	B+	-	-	-	-	-	B+	B+	B+-
	8	Historical and cultural heritage	-	-	-	-	-	-	-	-	-
	9	Religious matters (Christian and Muslim)	C-	-	-	-	-	-	C-	C-	-
	10	Water usage or water rights and rights of common	B+	-	-	-	-	-	-	B+	-
	11	Sanitation	B+	-	-	-	-	-	-	B+	-
	12	Hazardous (risk) infectious diseases such as HIV/AIDS	-	-	-	-	-	-	-	-	-
	13	Invasion of privacy	-	-	-	-	-	-	-	-	-
	14	Accident	-	-	-	-	-	-	-	-	-
Natural Environment	15	Topography and geographical features	-	-	-	-	-	-	-	-	-
	16	Soil erosion	-	-	-	-	-	-	-	-	-
	17	Groundwater	-	-	-	-	-	-	-	-	-
	18	Hydrological situation	-	-	-	-	-	-	-	-	-
	19	Coastal zone	-	-	-	-	-	-	-	-	-
	20	Flora, fauna and biodiversity	A+	-	-	-	-	-	A+	-	-
	21	Meteorology	-	-	-	-	-	-	-	-	-
	22	Landscape	-	-	-	-	-	-	-	-	-
	23	Global warming	-	-	-	-	-	-	-	-	-
Pollution	24	Air pollution	-	-	-	-	-	-	-	-	-
	25	Water pollution	C-	-	-	-	-	C-	-	-	-
	26	Soil contamination	-	-	-	-	-	-	-	-	-
	27	Waste	B-	-	-	-	-	B-	-	-	B-
	28	Noise and vibration	-	-	-	-	-	-	-	-	-
	29	Ground subsidence	-	-	-	-	-	-	-	-	-
	30	Offensive odour	-	-	-	-	-	-	-	-	-
	31	Bottom sediment	-	-	-	-	-	-	-	-	-
	32	Electromagnetic effect	-	-	-	-	-	-	-	-	-
	33	Obstruction of sunshine	-	-	-	-	-	-	-	-	-
	34	Disaster	-	-	-	-	-	-	-	-	-

<Rating>

- A- : Significant negative impact is expected, if any measure is not implemented to the impact.
 B- : Some negative impact is expected, if any measure is not implemented to the impact.
 C- : Extent of negative impact is unknown (Examination will be needed. Impact may become clear as the survey progresses.)
 - : No impact is expected. Therefore, EIA is not required.
 A+ : Significant positive impact is expected due to the project implementation itself and/or environmental improvement caused by the Project.
 B+ : Some positive impact is expected due to the project implementation itself and/or environmental improvement caused by the Project.
 C+ : Extent of positive impact is unknown (Examination will be needed. Impact may become clear as the survey progresses.)

17.2.2 Interpretation of the Scoping Matrix**(1) Overall Positive Impact**

Largely, the Project would contribute local economy and livelihood of people especially socially vulnerable people in Wayanad by providing agriculture allied livelihood/income generation activities,

housing, and village facilities etc. Furthermore, the Project would provide various activities for natural environment improvement works, all of which would contribute conservation of natural resources.

(2) Overall Negative Impact

Significant negative impact in social and environmental aspects is not foreseen at this stage. Regarding unknown adverse impacts (C-), there are two (2) impact items, namely “religious matters” and “water pollution”. Unknown impacts should be re-examined at the preparatory stage of the project implementation, however eliminating all sub-projects involving significant adverse environmental and social impacts through project-specific screening procedures to be outlined in the Environmental and Social Management Framework (ESMF) will be crucial.

17.3 Project Categorization and Treatment for Environmental and Social Considerations

17.3.1 Project Categorization by the JICA Guidelines

As per the JICA Guidelines (2010), the proposed project is classified as Financial Intermediary (FI), and the JICA Survey Team (2014) adheres that FI classification remains valid because of following reasons:

- 1) JICA’s funding of projects is provided to a financial intermediary or EA.
- 2) The selection and appraisal of the sub-projects is substantially undertaken by EA only after JICA’s approval of the funding, so that the sub-projects cannot be specified prior to JICA’s approval of funding.
- 3) Although a reasonable idea of what the range of sub-projects are indicated in the Df/R, sub-projects will be selected in participatory mode by communities and as such cannot be specifically defined at this stage.
- 4) Sub-projects with significant adverse environmental or social impacts requiring environmental clearance will be eliminated through screening procedures. However, certain potential environmental and social impacts are perceived, and furthermore there is the potential that the Project may involve Ecologically Sensitive Areas (ESAs) and Forest Dwellers (or SC, ST and other backward classes).

17.3.2 Project Requirement by the JICA Guidelines

As per the JICA guidelines, JICA examines and executes the following conditions in relations to the JICA-funded project implementation. The financial intermediary or Executing Agency (AHADS -CCPRM) will be required to comply with the requirements of JICA as stated below.

- 1) Whether the related financial intermediary or executing agency will ensure appropriate environmental and social considerations as stated in the guidelines.
- 2) Whether institutional capacity in order to confirm environmental and social considerations of the financial intermediary or executing agency is sufficient, or if requires adequate measures be taken to strengthen the capacity.
- 3) Whether the financial intermediary or executing agency will examine the potential positive and negative environmental impacts of sub-projects and takes the necessary measures to avoid, minimize, mitigate, or compensate for potential negative impacts, as well as measures to promote positive impacts if any such measures are available.
- 4) JICA discloses the results of environmental reviews on its website after concluding agreement documents.

- 5) Over a certain period of time, JICA will confirm with project proponents etc. the results of monitoring the items that have significant environmental impacts. This will be done in order to confirm that project proponents etc. are undertaking environmental and social considerations for projects that fall under Categories 'A', 'B', and 'FI'.

17.3.3 Project Categorization as per Indian Legislation

The primary objective of the Project is community development and livelihood improvement benefits in particular to socially vulnerable people and ecological rehabilitation of forest land including the conservation of Ecologically Sensitive Areas (ESAs). The objective implies that the Project shall have mainly positive environmental and social impact.

Moreover, it is planned that all sub-projects involving significant adverse environmental impacts (i.e. Category 'A' and 'B' as per the Indian legislations) will be eliminated through project-specific screening procedures. No proposed sub-projects would involve resettlement, land acquisition or loss of livelihoods. Therefore, it is envisaged that not necessary to treat the Project as Category 'A' or Category 'B' as per the Indian EIA related legislations to be required environmental assessment and/or environmental clearance.

17.4 Existing Environmental and Social Management System for the Project

17.4.1 Environmental and Social Management System of the Executing Agency

This section examines the capacity of the target institutions of the ESMF to address environmental and social considerations. AHADS-CCPRM, as an Executing Agency (EA), is responsible for entire project implementation, while Grama Sabhas (or Oorukuttam among tribal areas) are to support project activities in their lands from community perspective.

(1) AHADS-CCPRM:

AHADS-CCPRM does not have a comprehensive ESMS in place for the screening, management and monitoring of environmental and social risks of its standard operations and programmes. While certain elements or procedures of safeguard are included in ongoing government programs as per Indian legislations. There is participation of communities in implementation of various activities (as labour in many cases), and there is some evaluation of programmes including covering the involvement of communities (such as social audit). However, information disclosure and consultation with public are considered to be limited.

(2) Grama Sabha (or Oorukuttam among tribal areas):

Grama Sabhas are primarily responsible for the support of various activities in their locality. All of the sub-projects aim at positive social and environmental impacts such as livelihood development or forest restoration; as such it does not necessarily have a comprehensive ESMS in place. Awareness building on potential adverse social and environmental impacts and motivation to provide timely and appropriate support to project activities are imperative. However, such capacity seems to be limited.

Key gaps and shortfalls identified in each institution in comparison to international standards as indicated in the JICA Guidelines are summarised in the table below.

Key Gaps and Shortfalls in Comparison to the Standards in the JICA Guidelines

	Institution	Key Gap and Shortfall
1	EA: AHADS-CCPRM	<ul style="list-style-type: none"> - Limited free, prior and informed consultation with project-affected communities - No establishment of broad community support. - No social assessment is carried out prior to implementation (no baseline for impact evaluation). - No strategy for ensuring the inclusion of women and vulnerable groups. - No specific strategy for addressing the concerns of ST. - No procedures for environmental screening and subsequent management of environmental risks associated with small-scale construction and other activities with potential adverse impacts. - Design and implementation is centrally controlled/top-down. - Weak project monitoring as a whole and no monitoring of safeguard processes and procedures.
3	PRI: Grama Sabha/ Oorukuttam	<ul style="list-style-type: none"> - Lack of regular participation of the communities to Grama Sabha meetings, therefore there is no free, prior and informed consultation with project-affected communities. - Lack of awareness building on the inclusion of women and other vulnerable groups. - Lack of addressing the concerns of ST and SC and Other Backward Classes. - Lack of awareness of potential adverse environmental impacts. - Lack of understanding of safeguard processes and procedures.

Source: JICA Survey Team (2014)

17.5 Required Frameworks for Environmental and Social Considerations for the Project

Based on JICA's internal guidelines on the application of JICA Guidelines for FI projects which suggest that establishment of the ESMS during implementation, it is proposed that improvement to the ESMS and FDDF would be sufficient during the early stage of the project implementation. EA, AHADS-CCPRM, would need to commit to provisions for establishing an improved ESMS/FDDF, and implementation of those frameworks as a part of the loan agreement. This will also include use of the fund for capacity development of the AHADS-CCPRM as well as Grama Sabhas and other key stakeholders. Also, hiring of additional technical and operational staff for implementation of safeguard measures described in ESMF/FDDF would be necessary.

As per the JICA Guidelines (2010), the JICA Survey Team (2014) has provided technical assistance to AHADS-CCPRM to ensure environmental and social safeguard on the proposed project. Above and beyond, two (2) frameworks namely 1) Environmental and Social Management Framework (ESMF), and 2) Forest Dwellers Development Framework (FDDF), and one (1) checklist namely 1) ESMF Checklist were drafted (please see **Annex 9 in Volume III**).

1) Environmental and Social Management Framework (ESMF):

To meet the requirements of the JICA Guidelines, a broad ESMF is prepared to ensure that environmental issues are considered and that various socially disadvantaged and forest dependent groups are recognized and consulted; their needs met and their rights recognized.

2) Forest Dwellers Development Framework (FDDF):

To meet the requirements of the JICA Guidelines and in reference to OP 4.10 of the World Bank on Indigenous Peoples, FDDF needs to be additionally prepared to be applied where the Project affects or interacts with such groups identified as "Forest Dwellers" for the Project.

A 'framework' instead of 'plan' is considered the appropriate safeguards tool since the specific plans for the activities with the involvement of stakeholders will be developed in detail by EA during implementation stage.

ESMF takes into consideration of environmental and social vulnerabilities to better understand the situation of target population that the Project identified and helps build up resilience to cope up with the vulnerabilities. FDDF is to be prepared referring to the format provided in the World Bank's OP 4.10 on Indigenous Peoples.

17.6 Recommended Draft Environmental and Social Management Framework (ESMF)

17.6.1 Target Group of ESMF

ESMF will be applicable to all the project components identified within the project area. The table below indicates the target groups of the ESMF to address environmental and social considerations.

ESMF Target Groups

Activity/ Component	Proposed Beneficiary Selection Criteria	Implementing Body	PRI
1. Livelihood Activity	(At least one of the selection criteria needs to be matched) - An adult man or woman who cannot take part in manual labour like NREGA but can do light work - De-facto/De-jure woman head of household - Widow - Unwedded Mother - An adult man and woman whose unemployed period more than 3 months in the preceding 12 months	SHG /SHG Cluster	Grama Sabha
	(Both criteria need to be satisfied) - Have a keen interest in a business activity - Have a willingness to work as a group		
	(for the participants in dairy activities) - Those who own minimum 4 cent (0.004 ha) of land, - Those who can dedicate 5 hours per day for cattle rearing, or those who that other family members can support to achieve total 5 hours as a household, - Those who live in a area where natural fodder is easily available, or those who can get paddy straw or crop residue, - Those who have easy access to water		
2. Natural Environmental Improvement Activities	(At least one of the selection criteria needs to be matched) - To be located adjacent the area/spot where issues and problems are taking place or there are the potentials to develop and improve the utilization of forest resources. The distance between the community and the spots should be in principle within the distance reachable by walking less than one hour. - To be affected by the issues and problems thus suffering from substantial damages on the properties/resources in the community.	Vana Samrakshana Sena (VSS) Eco-Developm ent Committee (EDC)	Grama Sabha
	(Both criteria need to be satisfied) - To have a keen interest in addressing the issues/problems or developing the potentials to utilize the forest resources. - To have a willingness to work as a group and participate fully in the Project activities		
3. Community Infrastructure Development	(Details of the peoples' participation are given in the Section 16.5.)	Working Group	Grama Sabha
4. Housing	(Both criteria need to be met) - A household lives in a thatched hut - Can take part in construction of own house	Working Group	Grama Sabha
	(A household that any one of the priority criteria is applicable will be considered with priority) - De-facto/ De-jure woman head of household - Unwedded Mother - Widow		

Activity/ Component	Proposed Beneficiary Selection Criteria	Implementing Body	PRI
	(Exclusion Criteria: Even above criteria are met, a household that any one of the exclusion criteria is applicable shall be considered none-eligible for the housing component of this project) - A household having been a beneficiary of housing scheme previously - Not any one of the family member is financially supporting away from home		

Source: JICA Survey Team (2014)

17.6.2 Objectives of ESMF

ESMF helps to establish a process of environmental and social scrutiny which will permit the EA of the Project to identify, assess and mitigate the environmental and social impacts of the proposed interventions. In the process, the framework also determines the institutional measures to be taken during the program implementation.

The objectives of the ESMF can be summarized as:

- 1) to provide a broad framework for the identification, management and monitoring of potential environmental and social risks arising under the Project;
- 2) to enhance the Project's positive environmental and social impacts and avoid or mitigate associated negative impacts;
- 3) to ensure that the rights and needs of forest dependent communities (in particular the most socially vulnerable groups) affected by or involved in the Project, are respected and met in the design and implementation of project interventions; and
- 4) to ensure the protection of local ecosystems and environmental resources in the design and implementation of project interventions.

The ESMF is to be considered as the primary document for the management of environmental and social issues in the Project but works in concert with and refers to the other safeguards tools, which are intended to concentrate on or elaborate specific aspects (i.e., FDDF, micro plan, Social Assessment Plan etc.).

17.6.3 Structure of ESMF

The ESMF is structured as follows:

- 1) **Salient Features of the ESMF:** An introductory section which briefly summarizes the main features of the ESMF.
- 2) **Summary of the Project:** It briefly describes the project framework and sub-projects which may have adverse environmental and social impacts.
- 3) **Environmental and Social Safeguard Policies of JICA:** It briefly describes JICA's environmental and social safeguard policies, and clarifies how the Project shall be categorized and what types of measures will be required.
- 4) **Clarifying Definition and Selection of Safeguard Frameworks:** It analyses and defines the key technical terms, and select appropriate safeguard frameworks to be applicable for the Project.
- 5) **Target Groups of ESMF:** It defines beneficiaries in each activity/component.
- 6) **Existing Environmental and Social Management Systems:** Outlines the legal and policy context for environmental and social safeguard in India as well as in the State of Kerala. Also analyse the Environmental and Social Management Systems of existing institutions.

- 7) **Environmental and Social Risks and Mitigation Measures:** An assessment of potential positive and negative environmental and social aspects associated with the Project, as well as measures for the mitigation of adverse risks in project design and implementation.
- 8) **ESMF Framework and Procedures:** It indicates the institutional framework and identifies procedures for management and mitigation of environmental and social risks at each stage of the project cycle.
- 9) **Social Assessment:** It provides objectives, approach, task and reporting contents of social assessment. The assessment is to determine community needs and priorities, to obtain their views on the design and proposed implementation mechanisms of the Project.
- 10) **Capacity Development Requirements for ESMF implementation:** The capacity development and training requirements for effective implementation of the ESMF are identified.

17.7 Recommended Draft Forest Dwellers Development Framework (FDDF)

17.7.1 Definition of “Forest Dwellers” in Recognition of Forest Right Act 2006

The term “Forest Dweller” is in reference to ‘the Scheduled Tribes (ST) and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act’ (2006). There are two stages to be eligible under this Act: First, eligible person need to be primarily residing in forests or forest lands, dependent on forests and forest land for a livelihood. Second, it has to be proven that the above conditions have been true for 75 years, or that to be recognised as Scheduled Tribe. Under this Act, there are two kinds of target groups: i) ST who primarily reside in forests or forest lands; ii) other traditional forest dwellers who dependent on forests and forest land for a livelihood.

In Wayanad, Forest Dwellers are mainly localised within the four ranges of the Wayanad Wildlife Sanctuary – namely, Sultanbathery, Muthanga, Tholpetty and Kurichiat.

17.7.2 Definition of “Forest Dwellers” for the Project

As indicated above, the term ‘Forest Dweller’ has a particular meaning in the context of Indian forest policy and legislation. The definitions indicate that: i) a forest dweller is someone who is dependent on forest lands and resources but is otherwise not necessarily culturally, ethnically or linguistically distinct; and ii) an indigenous person may or may not live within forest areas.

JICA’s safeguard policy requires the Project to equip “Indigenous Peoples Developing Framework (IPDF)”. Particularly in the context of the Project, JICA requested the Survey Team to prepare “Forest Dwellers Development Framework (FDDF)”. However, JICA very deliberately used the term ‘forest dweller’ which has a particular meaning in the context of Indian forest policy and legislation. The term “indigenous people” was referred to the World Bank Policy on ‘Indigenous Peoples’, and therefore it could be understood that the task is to prepare a planning framework for indigenous peoples. Although there is some overlap (many forest dwellers are in fact members of culturally distinct social groups), by definition indigenous peoples and forest dwellers are not the same.

Based on the above considerations, Indigenous People or Forest Dwellers in the context of the Project is defined to be both tribal and non-tribal communities who reside within and on the fringes of the Reserved Forests. The fringe includes specifically those hamlets/colonies whose customary land overlaps or adjacent to the boundary of the Reserved Forests.

17.7.3 Current Status of the “Forest Dwellers” in Wayanad

As discussed in the **Section 9.1.2**, Reserved Forest in Wayanad occupy the 63.34 % of the state forest land (54,606.40 ha), of which majority is within the Wayanad Wildlife Sanctuary. The following

indicates main features of the Forest Dwellers in and around the Wayanad Wildlife Sanctuary, which seems to be mostly representing the features in Wayanad.

Kerala Forest Research Institute, Government of Kerala, conducted a socio-economic survey of all settlements within the Wayanad Wildlife Sanctuary in 2009. This survey revealed that there were 2,591 households within 110 settlements inside and along the fringes of the Sanctuary. Total population at the time of survey was 10,589 comprising of both tribal and non-tribal. Apart from this, the survey also revealed that there were 227 households who were not residing but possess land inside the enclosures. Till date, entire forest dwellers from two enclosures – Ammavayal and Goloor were relocated. Both these settlements are located in the core zone of the wildlife sanctuary. Government of India allocated Rs. 50 million¹ to relocate forest dwellers of Kurichiat to outside the Sanctuary and the process is underway.

17.7.4 Prospective Impact of the Project on “Forest Dwellers”

Prospective impact of the Project on Forest Dwellers would be:

- 1) Enhancing livelihood options for forest dwellers and other vulnerable communities;
- 2) Restoration of agro-forestry and value addition to agricultural produce;
- 3) Enhancing health of the forest through eco-restoration;
- 4) Strengthening institutional arrangements through capacity building of existing local governance structures;
- 5) Ensuring social safeguards by constant monitoring of income, health and security of the target population/communities.
- 6) At a larger scale, helping the forest dwellers to identify and overcome the constraints of unfavourable institutional environments.

17.7.5 Objectives of FDDF

FDDF is to be applied as an additional framework that works in concert with ESMF, the primary project safeguards document. The FDDF is applied only in situations where Forest Dwellers in the context of the Project are affected by project activities and provides guidance for specific measures which may be required in addition to the general provisions of the ESMF.

17.7.6 Structure of FDDF

FDDF is structured in an almost identical way to the ESMF for ease of use and in many cases simply refers to the ESMF:

- 1) Salient Features of the FDDF
- 2) Safeguard Policies of JICA on ST, SC, OBC Minorities and Forest Dwellers
- 3) Definition of “Forest Dwellers” as a Target of FDDF
- 4) Legal and Policy Framework for Forest Dwellers
- 5) Environmental and Social Risks and Mitigation Measures
- 6) Free, Prior and Informed Consultation
- 7) Social Assessment (SA) and Micro planning

¹ This information is from the Malayalam News Paper, “The Mathrubhoomi”, dated 10th June, 2014.

- 8) Selection and Screening of Sub-projects
- 9) Monitoring and Evaluation (M&E)
- 10) Grievance Procedures
- 11) Institutional Arrangement and Capacity Development

17.8 Recommended Procedures and Institutional Arrangements for Environmental and Social Considerations

17.8.1 Overview of the ESMF Procedures

The proposed framework for environmental and social considerations in the Project is summarised in the table below.

Overview of ESMF Procedures

	Component	Safeguard Activity	Suggested Guidance to be Developed
1	<ul style="list-style-type: none"> - Livelihood Activity - Natural Environmental Improvement Activities - Community Infrastructure Development - Housing Component 	<ul style="list-style-type: none"> - Beneficiary Selection 	<ul style="list-style-type: none"> - Selection criteria reflecting the social-environmental safeguard perspective - Selection to be done in a public meeting of People's Institution placed by the Project (e.g., Grama Sabha) - Consultation and Participation Plan
3	Community Infrastructure Development including Housing Works	<ul style="list-style-type: none"> - Ensuring no deserving communities are left out - Screening and selection of the activities with reference to the safeguard checklist - Participatory Environmental and Social Assessment (ESA) for confirmation of the screening results and finalization of the activities to be undertaken by each Working Group to be formed at Grama Sabha - Work-sharing between EA and participating households - Site visits by safeguards experts/technical staff of line government agencies 	<ul style="list-style-type: none"> - Guidance Note to ensure social and environmental safeguard. - Participatory Environmental and Social Assessment Plan with ESA format - Ensure that participating family provide the labour to complete the house construction
4	Monitoring and Reporting	<ul style="list-style-type: none"> - Through participatory M&E mechanism the impact of the project activities will be monitored by the EA 	<ul style="list-style-type: none"> - Participatory M&E Guidance Note - Monitoring Sheet
5	Grievance Procedures	<ul style="list-style-type: none"> - Through the project's institutional structure 	<ul style="list-style-type: none"> - Institutional responsibilities for addressing grievances - Grievance Sheet

Source: JICA Survey Team (2014)

17.8.2 Institutional Arrangements

ESMF will be implemented through existing institutional structure of the Project, therefore institutional arrangement for effective implementation of ESMF depends on how enhances the

function of each institutions for ESMF by designating specific role and/or responsibility. The table below highlights institutional structure for ESMF with key environmental and social management roles and responsibilities.

Institutional Structure for ESMF

Institution	Role in the Project	(additional) Role and/or Responsibility in ESMF
EA		
PMU/ AHADS-CCPRM	<ul style="list-style-type: none"> - Project implementation, supervision and monitoring of all activities. - Documentation and reporting. 	<ul style="list-style-type: none"> - Information disclosure including elaboration of project information brochures and project homepage. - Consultation and guidance to Field Level Officers on information disclosure and consultation. - Ensure free, prior and informed consultation. - Development of Management Information System (MIS). - Development of approach and guidance for micro planning. - Training on micro planning to Field Level Officers. - Technical guidelines for beneficiary selection, design of component technical approaches, safeguard checks/guidelines for particular activities (if required) - Development of monitoring forms, review of monitoring data, reporting, assistance with evaluations - Review of participatory Environmental and Social Assessments - Performance of due diligence follow-up
Field Level Officers	<ul style="list-style-type: none"> - Assist Grama Sabha and implementing bodies for implementation of project activities. - Assist Grama Sabha with organization of project activities, ensuring appropriate beneficiary selection, promotion of convergence, etc. 	<ul style="list-style-type: none"> - Support Grama Sabha (Ward Member) with project monitoring and reporting, logistical support for independent evaluations. - Assist Grama Sabha (Ward Member) to select sub-projects with screening procedures. - Support Grama Sabha (Ward Member) to conduct participatory Environmental and Social Assessments (ESA). - Support EDC/VSS for micro planning at village levels, finalization of micro plans. - Support EA for free, prior and informed consultation, and due diligence checks.
PRI (Local Self-Government)		
Grama Sabha	<ul style="list-style-type: none"> - Assist PMU in selecting target beneficiaries - Clarify local needs and expectations on the Project 	<ul style="list-style-type: none"> - Conceive and raise local awareness on environmental and social considerations. - Provision of support in micro planning activities at village level. - Participating in Environmental and Social Assessments (ESA). - Supporting EA for free, prior and informed consultation, and due diligence checks.

Source: JICA Survey Team (2014)

Overall coordination and support for ESMF will be provided through the PMU at EA. Within EA, the Joint Executive Director (JED) at PMU will hold central responsibility for ensuring ESMF in the Project, and information related ESMF will be centrally managed by the JED. Under the supervision of JED, the Deputy Executive Directors will hold position as Environmental and Social Safeguard Managers for their activities in each designated work field. Further, Selected Field Level Officers (or/and Field Level Assistant Officers) will be designated as Environmental and Social Safeguard Engineers to provide hands-on assistance to Ward Members of Grama Sabhas who are the Environmental and Social Safeguard Focal Person from the perspective of PRI. EA will employ one Environmental and Social Safeguard Specialist, as one of project management consultants, whose

mandate is to provide necessary technical assistance to ensure effective implementation of ESMF in the Project.

Individual Role and Responsibility for ESMF

Institution/ Title		Role and Responsibility
PMU/AHADS-CCPRM		- Overall coordination and promotion of ESMF/FDDF compliance
Environmental and Social Safeguard Specialist		- Providing necessary technical assistance to ensure effective implementation of ESMF/FDDF.
Joint Executive Director (JED)		- Overall responsible for ensuring ESMF in the Project. - Responsible to centrally manage information related to ESMF.
In PMU	For ESMF	- Responsible for implementation of ESMF for their activities in each designated work field. - Responsible for monitoring all the field level activities relating ESMF. - Responsible for examination of safeguards compliance.
Deputy Executive Directors	Environmental and Social Safeguard Managers	
Field Level Officers (or/and Field Level Assistant Officers)	Environmental and Social Safeguard Engineers	- Responsible for regularly collect ESMF information as a part of MIS format. - Providing hands-on assistance to SHGs, VSSs/EDCs and Working Groups regarding ESMF. - Closely communicating with the Environmental and Social Safeguard Focal Person (Ward Member) for timely action if necessary.
Ward Members of Grama Sabhas	Environmental and Social Safeguard Focal Person	- Support the Project for compliance of ESMF from the perspective of PRI. - Encourage beneficiaries to participate activities relating ESMF.

Source: JICA Survey Team (2014)

The project's Management Information System (MIS) will include collection of safeguards-related data and the Project will also be subject to periodical evaluation and review, which will include examination of safeguards compliance. Information will be regularly collected as a part of MIS format by the Environmental and Social Safeguard Managers at EA who will be responsible for monitoring all the field level activities relating ESMF. The Environmental and Social Safeguard Engineers will closely communicate with the Environmental and Social Safeguard Focal Person for timely action if necessary.

17.8.3 Capacity Development Requirement

Management and monitoring of environmental and social risks require a certain level of awareness and technical capacity. Particularly for ESMS, different knowledge and skills are required at different management levels. These will be drawn out in the environmental and social safeguards capacity development and training programs.

The table below identifies key capacity development requirements for implementing the ESMF measures, steps and procedures. All capacity development programs will be conducted by EA. Detailed capacity development plan for environmental and social safeguard will be developed in line with the capacity development component of the Project at the preparation stage by the Environmental and Social Safeguard Specialist who is also responsible in developing modules and materials in local languages. The specialist will supervise the programs from technical points of views, and also be expected to serve as a lecturer as needed.

Knowledge and Skills Requirements for Environmental and Social Safeguards (proposal)

Module Name	Theme/Topic	Key Participant	Schedule
Module 1-1: Management/ Administrative Level General Orientation on ESMF and FDDF for the Project	<ul style="list-style-type: none"> - JICA's safeguard policy - Basic introductory concept of safeguard - Overview of regulations (general) - Safeguard issues (vulnerable groups, SCs, STs, gender rec.) - ESMF steps and procedures to be applied in the Project - Free and prior informed consent (FPIC) 	<ul style="list-style-type: none"> - EA (administrative/ management staff) - Field Level Officers (or/and Field Level Assistant Officers) - Elected LSG members - DMU staff, FD 	<ul style="list-style-type: none"> - Annually*(2nd to 6th year) for one day - At the initial stage of each year
Module 1-2: Field/ Operational Level General Orientation on ESMF and FDDF for the Project	<ul style="list-style-type: none"> - Basic introductory concept of safeguard - Overview of regulations (specific) - Safeguard issues (vulnerable groups, SCs, STs, gender rec.) - Community consultation processes - Free and prior informed consent (FPIC) 	<ul style="list-style-type: none"> - Field Level Officers (or/and Field Level Assistant Officers) - Representatives from SHGs, VSSs/EDCs and Working Groups - Ward Member - Other representative from Grama Sabha(if necessary) - RMU staff and Beat officers, FD 	<ul style="list-style-type: none"> - Annually*(2nd to 6th year) for one day - At the initial stage of each year
Module 2: Community Facilitation and Environmental and Social Assessment (ESA) for Environmental and Social Safeguard	<ul style="list-style-type: none"> - Sub-project planning (and micro planning) - Role of LSG, Grama Sabha and FD - Participatory ESA - Working with vulnerable groups - Gender issues - Conflict resolution - Grievance procedures 	<ul style="list-style-type: none"> - Field Level Officers (or/and Field Level Assistant Officers) - Representatives from SHGs, VSSs/EDCs and Working Groups - Ward Member - Other representative from Grama Sabha(if necessary) - RMU staff and Beat officers, FD 	<ul style="list-style-type: none"> - Annually*(1st to 3rd year) for one day - At the initial stage of each year
Module 3-1: Management/ Administrative Level Monitoring and Evaluation for Environmental and Social Safeguard	<ul style="list-style-type: none"> - M&E concept and procedures - Monitoring and reporting of safeguards - Use of M&E results and feedback 	<ul style="list-style-type: none"> - EA (administrative/ management staff) - Field Level Officers (or/and Field Level Assistant Officers) - Elected LSG members - DMU staff, FD 	<ul style="list-style-type: none"> - Annually*(3rd to 7th year) for half day - At the initial stage of each year
Module 3-2: Field/ Operational Level Monitoring and Evaluation for Environmental and Social Safeguard	<ul style="list-style-type: none"> - Monitoring principles and procedures - Monitoring and reporting procedures - Use of reporting formats 	<ul style="list-style-type: none"> - Field Level Officers (or/and Field Level Assistant Officers) - Representatives from SHGs, VSSs/EDCs and Working Groups - Ward Member - Other representative from Grama Sabha 	<ul style="list-style-type: none"> - Annually*(3rd to 7th year) for half day - At the initial stage of each year
Module 4: Specific training for specific techniques/tasks to be required	For example: <ul style="list-style-type: none"> - Chemical use - Safety standard for construction - Mitigation planning and implementation 	To be defined when it becomes necessary	To be defined when necessary

Note: Comprehensive training will be given in the 1st time, and in consecutive times, comprehensive training for new project participants, and refresher training for those who are required will be given.

Source: JICA Survey Team (2014)

Proposed Frequency for Environmental and Social Safeguard Training

Module	Frequency	Duration	Number of Participants	Venue
Module 1-1	Annually* (2 nd to 6 th year: total of 5 times)	One day 8:00-17:00	2 nd year : 100	Trivandrum
			3 rd to 6 th year : 30 /each	
Module 1-2	Annually* (2 nd to 6 th year: total of 5 times)	One day 8:00-17:00	2 nd year : 100	Wayanad
			3 rd to 6 th year : 30 /each	
Module 2	Annually* (1 st to 3 rd year: total of 3 times)	One day 8:00-17:00	1 st year : 100	Wayanad
			2 nd to 3 rd year : 30 /each	
Module 3-1	Annually* (3 rd to 7 th year: total of 5 times)	Half day 8:00-13:00	3 rd year : 100	Trivandrum
			4 th to 7 th year : 30 /each	
Module 3-2	Annually* (3 rd to 7 th year: total of 5 times)	Half day 8:00-13:00	3 rd year : 100	Wayanad
			4 th to 7 th year : 30 /each	
Module 4	When necessary	To be defined	To be defined	Wayanad/Trivandrum (to be defined)

Note: Comprehensive training will be given in the 1st time, and in consecutive times, comprehensive training for new project participants, and refresher training for those who are required will be given.

Source: JICA Survey Team (2014)

17.9 Monitoring

17.9.1 Objectives of Monitoring

The overall objectives of the monitoring and evaluations for environmental and social safeguard are:

- 1) To ensure compliance with all environmental laws and regulations of Indian government by taking necessary steps and procedures required;
- 2) To control and monitor all the activities for environmental and social safeguard defined in ESMF and FDDE, and to ensure expected results; and
- 3) To coordinate and supervise all concerned stakeholders involved in the environmental and social safeguard of the Project, anticipating the actions in relation to prevent, reduce and mitigate the environmental and social impacts.

17.9.2 Monitoring Plan

The safeguards frameworks require certain outputs relevant to ensuring that environmental and social safeguards have been observed are produced. Therefore indicators are required to measure the utilization and quality of the safeguard processes. The table below presents monitoring items, their indicators, means of verification, frequency and responsible parties for demonstrating and measuring that safeguards measures have been implemented.

Monitoring Items, Indicators, Means of Verification, Frequency and Responsible Parties

	Item	Indicator	Means of Verification	Frequency	Responsible Party
1.	Information disclosure and establishment	- No. of men, women, BPL, SCs/STs attended at the	- Community resolution - Voting records	At least once a year. Additional measurement	PMU/ AHADS-CCPRM

	Item	Indicator	Means of Verification	Frequency	Responsible Party
	of broad community support	community meeting - % of interviewees satisfied with information disclosure process		should be carried out whenever need arises during the Project implementation.	
2.	Social Assessment (SA)	- No. of men, women, BPL, SCs/STs consulted in PRA	- Social Assessment Reports - Gender Assessment Report	For every assessment	Field Level Officers with the support from Grama Sabha
3.	Micro planning	- No. of men, women, BPL, SCs/STs consulted in micro planning - % of interviewees satisfied with micro plans	- Micro plans - STTPPs	For every micro planning	Field Level Officers with the support from Grama Sabha
4.	Sub-project selection and screening	- No. of excluded sub-projects	- Lists of sub-projects - Reports on the selection and screening	At the time of sub-project selection	PMU/ AHADS-CCPRM
5.	Sub-project implementation	- No. of women, BPL, SC/ST beneficiaries - % of interviewees satisfied with beneficiaries selected	- VSS/EDC, SHGs, Working Groups - Sub-project Plans	At the time of beneficiary selection At the time of sub-project planning	Field Level Officers with the support from Grama Sabha
6.	Monitoring and Evaluation	- No. of men, women, BPL, SC and ST attended community meeting	- Monthly, quarterly, annual monitoring forms - Social audit reports	At least once a year. Additional measurement should be carried out whenever need arises during the project implementation.	Field Level Officers with the support from Grama Sabha
7.	Grievance procedures	- No of grievances submitted - No of grievances resolved - % of interviewees aware of and satisfied with grievance mechanism	- Grievance forms	At least once a year. Additional measurement should be carried out whenever need arises during the Project implementation.	PMU/ AHADS-CCPRM Field Level Officers with the support from Grama Sabha

Source: JICA Survey Team (2014)

17.9.3 Indicators for Monitoring and Evaluation**(1) Monitoring Indicators:**

In terms of monitoring and evaluation data, there are two types of indicator sets of particular importance from a safeguards perspective as described below. To plan monitoring at the preparation stage of the Project, both types need to be effectively integrated.

Impact Monitoring:	Impact monitoring indicators show the impact of the Project. Since this project's activities are aimed at environmental and social goals, the project's monitoring indicator set is sufficient for demonstrating impact e.g. number of hectares of forest restored, number of beneficiaries with improved incomes etc. From a social safeguards perspective, it is important to monitor impacts on specific groups – therefore project impact monitoring needs disaggregation of the data by social status e.g. BPL households, forest dwellers, female-headed households including households with unwed mothers, SC and ST status.
Process Monitoring:	The monitoring system also needs to pick up whether the proposed safeguards measures are taking place and whether activities are being implemented in the right way. This involves monitoring of project processes e.g. Sub-project screening/participatory ESA has taken place, were SC/STs separately consulted in the SA/micro planning processes, was there female participation in the social audits etc. Much of this requires monitoring sheets for the various consultation meetings and signatures of attendees. A set of proposed process indicators has been developed for the Project.

Source: JICA Survey Team (2014)

(2) Evaluation Indicators:

Project results will be evaluated against the baseline set before the project implementation. Therefore, a baseline survey covering relevant environmental/physical and socio-economic indicators will be conducted at an early stage of the project implementation. From the perspective of environmental safeguards, all significant adverse environmental impacts should have effectively been ruled out through the safeguards framework. The independent evaluator should confirm that this has indeed been the case but otherwise the evaluation is merely focused on assessing whether the Project has achieved its stated positive environmental impact. With regard to social safeguards, the independent evaluator shall employ both quantitative and qualitative survey methods in assessing whether a) social goals are being/have been achieved and b) that these impacts are proportionally reflected in the different social groups such as SCs, STs, BPL and Other Backward Class (OBCs).

Chapter 18 Operation and Effect Indicators

A framework for effective and efficient evaluation including the overall goal, project purposes and inputs, specific verifiable indicators are suggested as follows. The following framework is tentative, and the operation and effect indicator and target shall be developed in participatory manner by the concerned stakeholders, and shall be periodically reviewed and modified according to the situation during implementation. Based on the weekly/monthly progress monitoring, annual review and impact survey, the indicators will be verified.

Suggested Operation Indicators

Project Component	Sub-component	Operational Indicator	
		Indicator	Target* and Target Year
Livelihood Improvement	Preparatory Work	Number of formed IGA development plan	() By the end of the 2nd year of the Project
		Number of formed Clusters	() By the end of the Project
		Number of formed SHGs	() By the end of the Project
		Number of the members of SHGs	() By the end of the Project
	Main Work	Employment generation	() person-day By the end of the Project
		Profit earned from IGA activities	() Rs. per person By the end of the Project
		Number of Programmes/Schemes linked with the Project	()
	Institutional Strengthening	Number of the participants in the trainings	More than 90 % of the targeted SHG members in each training By the end of the 6 th year
Natural Environment Improvement	Preparatory Work	Number of newly formed VSSs and EDCs	()
		Number of rearranged and activated VSSs and EDCs	()
		Number of developed Micro Plan	()
	Main Work	Size of the forests treated for ANR	() ha By the 8 th year of the Project
		Number of the developed water post	() water post development By the 8 th year of the Project
		Size of the developed elephant proof	Stone wall: Rail fence: Solar Power fence: By the 8 th year of the Project
		Size of the managed fire line	() m By the 7 th year of the Project
		Number of the members of VSS/ EDC to join NTFP collection	() person By the 5 th year of the Project
		Size of the improved/ developed roads or trails for eco-tourism development	Road: () m Trail: () m By the 5 th year of the Project
	Institutional Strengthening	Number of the participants in the trainings	More than 90 % of the targeted VSS/ EDC members in each training By the end of the 4 th year

Project Component	Sub-component	Operational Indicator	
		Indicator	Target* and Target Year
Community Infrastructure Development	Preparatory Work	Number of formed working group	House: () Road: () School toilet: () Medical care equipment: () By the 7 th year of the Project
	Main Work	Number of the built houses, access roads, bridges, renovated school toilets per school, and upgraded medical care equipments	House: () Access road: () Footpath: () Concrete bridge: () Pedestrian bridge: () Steel Truss bridge: () Suspension bridge: () School toilet: () Medical care equipment: () By the 8 th year of the Project
	Institutional Strengthening	Number of the participants in the trainings	More than 90 % of the targeted VSS/EDC members in each training By the end of the 4 th year

Source: JICA Survey Team (2014)

*Note: Targets are to be defined by PMU after baseline survey

Suggested Effect Indicators

Project Component	Effect Indicator	
	Indicator	Target* and Target Year
Livelihood Improvement	Additional income from SHG work in the Project	()% increase in household income as a result of the Project activities By the end of the Project
	Sales and benefit of NTFP products	Sales: (Total) Rs./ VSS or EDC Benefit: (Total) Rs./ VSS or EDC By the end of the Project
	Increase rate in sales and benefit	()% increase in sales ()% increase in benefit By the end of the Project
	Sales and benefit of IGA products	()Rs./ SHG By the end of the Project
Natural Environment Improvement	Regeneration % in the areas where ANR was implemented	()% increase in regeneration By the end of the Project
	Number of occurrence of elephant attack and its damage	()% decrease in the number of the occurrence ()% decrease in the amount of the paid compensation for damage caused by elephant attack By the end of the Project
	Number and size of forest fire outbreak and its damage	()% decrease in the number of the occurrence Decreased area size of forest fire By the end of the Project
	Increase rate of the participants in the eco tour at the places, where the work for eco-tourism development was implemented in the Project	()% increase in the number of the participants By the end of the Project
	Increase of income from guide for eco-tourism	()% increase in the income from guide work for eco-tourism
	Increase of income opportunity from guide work in the arranged area by eco- tourism development work	() days increase for guide work in the arranged area

Project Component	Effect Indicator	
	Indicator	Target* and Target Year
Community Infrastructure Development	Increase rate of the patients diagnosed at the CHCs/PHCs whose medical equipment are upgraded	()% increase in the number of visitors By the end of the Project
	Number of the patients who take testing with the installed/upgraded medical equipment	() person By the end of the Project
	Number of medical staff of the CHCs/PHCs, who learned the method of using the upgraded medical equipments	() persons By the end of the Project
Other	Achievement of progress monitoring, baseline survey, and annual review	Monitoring and evaluation are completed as per the plan, and the monitoring works provide necessary information for the project evaluation

Source: JICA Survey Team (2014)

*Note: Targets are to be defined by PMU after baseline survey

Chapter 19 Important Assumptions

19.1 Overview

During the Survey, the Survey Team experienced challenges with the concerned local government offices, government supported projects, Panchayats and communities. The district level data were not readily available for the Survey Team and thus, more time was spent on data collection, which was not expected in this Survey of short duration. This was largely due to the lack of communication and rapport between the LSGD, executing agency, and the local stakeholders in the district. The Survey Team made efforts to address the survey objectives at the District Planning Committee to seek cooperation from the Panchayat Presidents but as a conclusion of the meeting, the DPC demanded an official communication from LSGD to introduce the Survey Team.

The Survey Team confirmed that the Executing Agency has one Executive Director and Deputy Director who are serving the agency without any salary. They stated a plan to recruit the staff members and many of the former AHADS staff will be re-deployed for the Project implementation. However, during the Survey, the Survey Team was unable to confirm any formalised plans for the reactivation of the AHADS-CCPRM as the executing agency of the Project. The Executing Agency eligible for loan funding shall have the proof and evidence of performance as an institution and have the capacity of its own to implement the Project. From the above, the environment surrounding the Project needs to be in proceed for the Project implementation. Important assumptions and preconditions based on the Survey findings are enumerated in this section.

19.2 Consensus between LSGD, Executing Agency and Local Stakeholders

In the implementation process of the Project, local stakeholders such as Grama Panchayats, Grama Sabha, and Oorukoottam play a critical role along with other government offices/ schemes/ programmes. Thus, their understanding of the Project objectives and expected roles must be communicated by the LSDG and Executing Agency. As this project will be implemented through community level participation and convergence, it is critical to create rapport with the local stakeholders and willingness to contribute in the implementation process. If such conducive environment is not established prior to the project implementation, the Project will not be implemented in the participatory mode but be implemented in isolation and reduces the possibility of convergence and post-project sustenance. Hence, the LSGD and Executing Agency have to ensure the above prior to the Loan Agreement, which shall be recorded in a minute of District Planning Committee.

19.3 Re-establishment of AHADS-CCPRM

As there was no staff deployment plan confirmed during the Survey, the plan was prepared by the Survey Team according to the requirement. The Survey Team was also unable to assess the organisational capacity of the Executing Agency, which can be re-enforced. It should be set as a precondition for the Loan Agreement that Executing Agency shall complete the staff deployment as proposed in this project and establish an office in Wayanad prior to the Loan Agreement.

19.4 Land for CFCs

Establishment of CFCs is essential for the clusters to undertake IGAs. 75 CFCs are proposed to be established in this project. Each CFC should have enough space for the office and work space. Prior to the formulation of IGA development plan and CFC establishment plan, it is assumed that adequate land would be allocated out of the revenue land by the government for the purpose. As CFCs cannot be established without land space, the Executing Agency is required to secure the adequate revenue land.

Chapter 20 Post-Preparatory Survey Work

Once the Preparatory Survey is completed in September 2014, JICA may decide to dispatch missions for fact finding. If findings of the fact finding mission are favourable, JICA may proceed to send an Appraisal Mission for the loan appraisal and detailed discussion with LSGD and Executing Agency. Loan Agreement may be signed if the Project is assessed to be eligible.

In the meantime, LSGD and Executing Agency are required to satisfy the pre-conditions as discussed in **Chapter 19**. The progress of such effort will be a point for assessing the loan eligibility. The post preparatory survey work done by the Executing Agency is given below.

Possible Post-Preparatory Survey Work

	Action Points	Responsible Agency	Executing Agency	Schedule
0	Fund Arrangement and Procurement Project Consultant			
0.1	Fund Arrangement			
0.1.1	Pledge	JICA/ LSGD	JICA	After Appraisal Mission of JICA
0.1.2	Loan Agreement	JICA/ LSGD	JICA	After Pledge
0.1.3	Effectuation of the Loan	JICA/ LSGD	JICA	After Completion of Loan Agreement
0.2	Procurement of Project Management Consultant	AHADS-CCPRM	AHADS-CCPRM	After Loan Agreement
I.	Institutional Arrangement and Setting Up Executing Agency			
1.1	Development of Structural Organization of AHADS-CCPRM	LSGD	AHADS-CCPRM	After Loan Agreement
1.2	Preparation of Operation Manual of PMU	LSGD	AHADS-CCPRM	Year 1 - 1st Quarter
1.3	Forming Project Advisory Committee	LSGD	AHADS-CCPRM	Year 1-1st Quarter
1.4	Posting Deputation Position of AHADS-CCPRM	LSGD	AHADS-CCPRM	Year 1-2nd Quarter
1.5	Recruiting Staff of AHADS-CCPRM	LSGD	AHADS-CCPRM	Year 1-3-4th Quarter
1.6	Arrangement of PMU Office (by renting)	LSGD	AHADS-CCPRM	Year 1-2nd Quarter

Source: JICA Survey Team (2014)

ATTACHMENTS

Attachment II 7.14.1 (a): Interview - Female Headed Households- Summary

Remarks: In order to prevent any negative social implication to the informants, the detailed location and names are not given in this summary and report.

Reporting Date: 4/7/14

SI No	Date	Age, Social Group	Marital status	Approximate Monthly Income (in Rs.)	Livelihood	Programmes, Schemes, Benefits Received	Health problems	Other problems
1	25/6/14	58, Muslim	Deserted	2000/-	NREGS, Wage labour	1.House under EMS housing scheme 10 years ago	1.High Blood Pressure 2.Fainting tendency 3.(Daughter having depression)	1. Absence of steady income 2.Poor economic condition 3.Daughter with depression and mental issues 4.Struggling to support daughter and her son studying for plus two
2	25/6/14	36, Hindu	Deserted	2000/-	Tea estate laborer, other wage labour, Janasree SHG member	1.Widow pension	1.Acute back pain 2.Spondylitis 3.Stomach ulcer 4.Chronic head ache 5.Unable to do heavy physical labour	1.Absence of a steady income 2.Physical Ailments 3.Big household to support with a son in school, an old mother, a deserted sister who is also a Tuberculosis patient and her two children 4.Antagonistic attitude of neighbours
3	1/7/14	47, Muslim	Deserted	2000/-	Wage labour (coffee estate, nearby households)	1.House from Panchayat 10 yrs ago 2.Minority pre matric scholarship to son	1.Fell down, leg operated, cannot do hard physical labour	1.Absence of steady income

Sl No	Date	Age, Social Group	Marital status	Approximate Monthly Income (in Rs.)	Livelihood	Programmes, Schemes, Benefits Received	Health problems	Other problems
4	1/7/14	45, OBC (Thiyya)	Deserted	-	NREGS, Kudumbasree, Wage labour	1. House from panchayat 16 years ago 2. Benefits from BPL card	1. Back pain 2. Head ache	1. Absence of steady income 2. Huge debts 3. Maintenance of house 4. Crop loss and threat from wild animals 5. NREGS proposed to limit to ST communities
5	2/7/14	56, Hindu (Chetty)	Widow	1500/-	Wage labour , occasionally	1. Widow pension 2. Benefits from BPL card	1. High Blood Pressure 2. High Blood Sugar 3. Fainting often 4. Defective vision, not diagnosed	1. Absence of steady income 2. Loneliness
6	2/7/14	35, OBC (Thiyya)	Deserted	6000/-	Home nurse	1. House under EMS housing scheme, Rs 75,000/- 2. Widow pension for mother 3. Benefits of BPL card	-	1. House to complete 2. Huge debts to repay
7	3/7/14	45, SC (Sambava)	Deserted	3000/-	Labourer in coffee estate, Kudumbasree SHG member	1. Widow pension 2. Education of children sponsored by a christian mission	-	1. Debts to pay
8	3/7/14	45, ST (Kurichya)	Widow	5000/-	Permanent worker in coffee estate, Daughter - sales girl in textile shop (Rs 3000/ month)	1. Benefits from BPL card 2. Widow pension	-	1. Commonly owned land 2. Cannot apply for house due to common ownership 3. Son suffering from loss of sight, did four operation, not cured 4. Debt to repay, taken for

Sl No	Date	Age, Social Group	Marital status	Approximate Monthly Income (in Rs.)	Livelihood	Programmes, Schemes, Benefits Received	Health problems	Other problems
								the operation of son 5.Should support the deserted daughter and one year old son
9	3/7/14	43, Christian (Converted from Kurichya tribe)	Unmarried	9000/-	Home nurse	1.Benefits from BPL card 2.Widow pension (mother)	1.Arthritis 2.Tumor in abdomen 3.Gynec issues 4.Head ache 5.Anemic	1.Need to construct house 2.No savings 3.Antagonism from the part of relatives
10	3/7/14	44, Christian (Converted from Kurichya)	Widow	1750/-	Wage labour (coffee curing works, daughter working in a clinic in kambalakkad)	1.House in 2002 for Rs 42,000/- 2.Beneficiary of Asraya Scheme 3.Benefits from BPL ration card 4.Widow pension 5.Support from "Jeevana", an NGO related to church	1.Acute cough 2.Allergy 3.Fainting occasionally 4.Mental illness, depression	1.Absence of steady income 2.Loss of work in coffee curing unit due to mechanization 3.Maintenance of house 4.No savings to marry off daughter

Attachment 7.14.1 (b): Interview - Unwedded Mothers- Summary

Remarks: In order to prevent any negative social implication to the informants, the detailed location and names are not given in this summary and report.

Reporting Date : 4/7/14

Sl No	Date	Age , Social Group	Approximate Monthly income (in Rs.)	Livelihood	Programmes, Schemes, Benefits received	Health Problems	Other problems
1	1/7/14	26, ST (Paniya)	1000/-	Wage labour	1.Education stipend from school for son	-	1.Poverty, No food 2.Poor income, No steady income 3.Common property 4.No house 5.No support system 6.Antagonism from household members 7.Debts 8.Less number of work days 9.No ration card 10.Difficult to associate with others
2	2/7/14	48, OBC (Thiyya)	1000/-	1. Kudumsree SHG 2.Wage labour	1.Beneficiary of Asraya 2.Got house under Asraya 10 years ago 3.Widow pension 4.Education of younger daughter supported by Pentecostal mission	1.High Blood pressure 2.Acute pain in legs, cannot do hard physical labour	1.No steady or sufficient income 2.Attempt of sexual exploitation from household members and outsiders 3.Maintenance of house 4.No support system
3	2/7/14	26, ST (Paniya)	Nil	Supported by mother who is deserted doing 1.Wage labour 2.NREGS	1.Benefits from BPL card	1.Acute head ache	1.Absence of source of income 2.Common property 2.No pucca house
4	3/7/14	34, ST (Adiya)	2000/-	1.Wage labour 2.Road construction works	1.Beneficiary of Asraya 2.Benefits from BPL card	-	1.No Land 2.No house 3.Absence of support from household members

Sl No	Date	Age , Social Group	Approximate Monthly income (in Rs.)	Livelihood	Programmes, Schemes, Benefits received	Health Problems	Other problems
					3.Agreement signed under “Land for landless” scheme of tribal Department, allotted 30 cents of land, but not usable		
5	3/7/14	37,Christian	750/-	1.Wage labour 2.Road construction works	1.House under IAY scheme (75,000/-), Poorly constructed, now leaking, unfit for stay 2. Support from church at times, as food grains 3.One daughter in the convent	1.Low blood pressure 2.Fainting often 3.Appendicitis 4.Bleeding from nose and ears 5.Cannot do heavy labour	1.House in very bad condition 2.No income mostly 3.Poverty, no food many days 4.Debts to neighbours, Shops, etc
6	3/7/14	42, Converted Christian	1000/-	1.Wage labour occassionally 2.Home nursing occassionally	1.Benefits from BPL card 2.Widow pension	1.High Blood pressure 2.Mental illness, depression	1.No land 2.No House 3.No support system 4.Debts 5.No steady income 6.Poverty, no food at times 7.Supporting unmarried sister and aged mother

Attachment III 16.2.1 Proposed Sites for ANR of Understory Management and Elephant Proof Protection Facilities

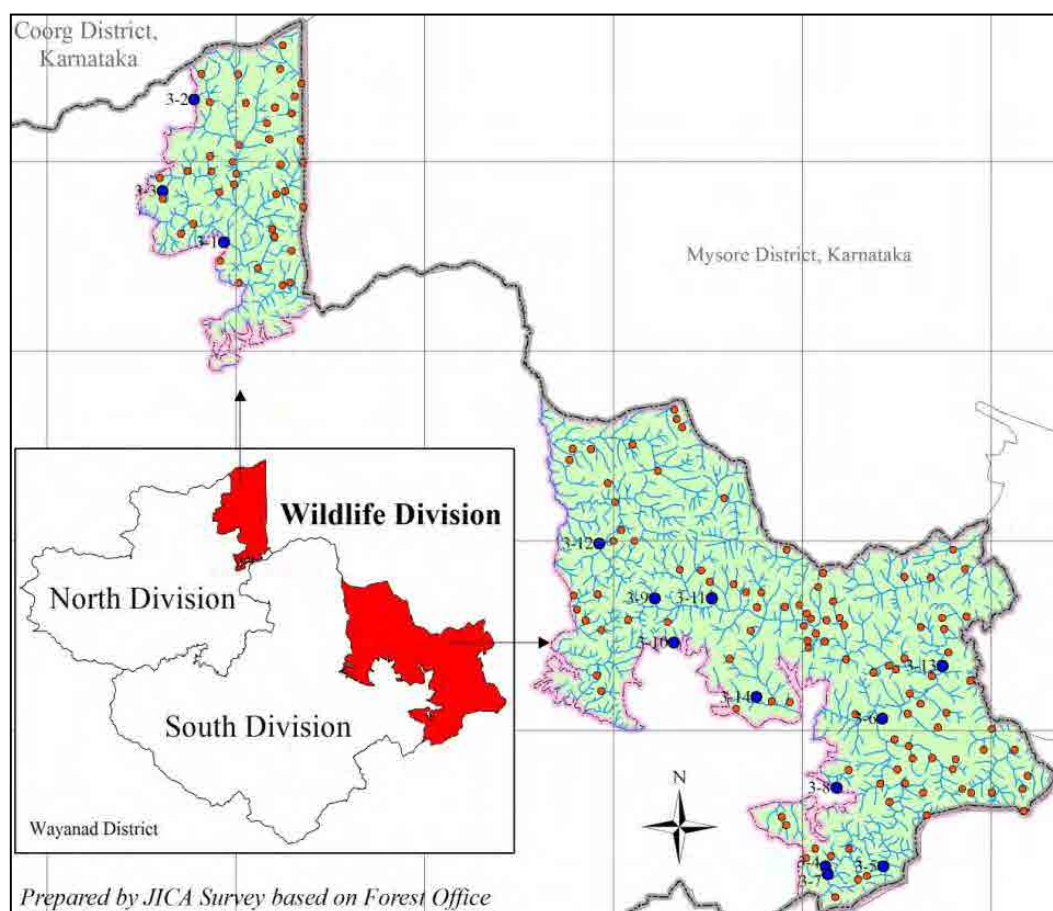


Figure 1 Proposed Sites of ANR of Understory Management

Source: JICA Survey Team (2014) based on the data collected at Range Offices: Blue dots: Location of EDC, Red dots: Location of Proposed Site of ANR and Water Post Development.

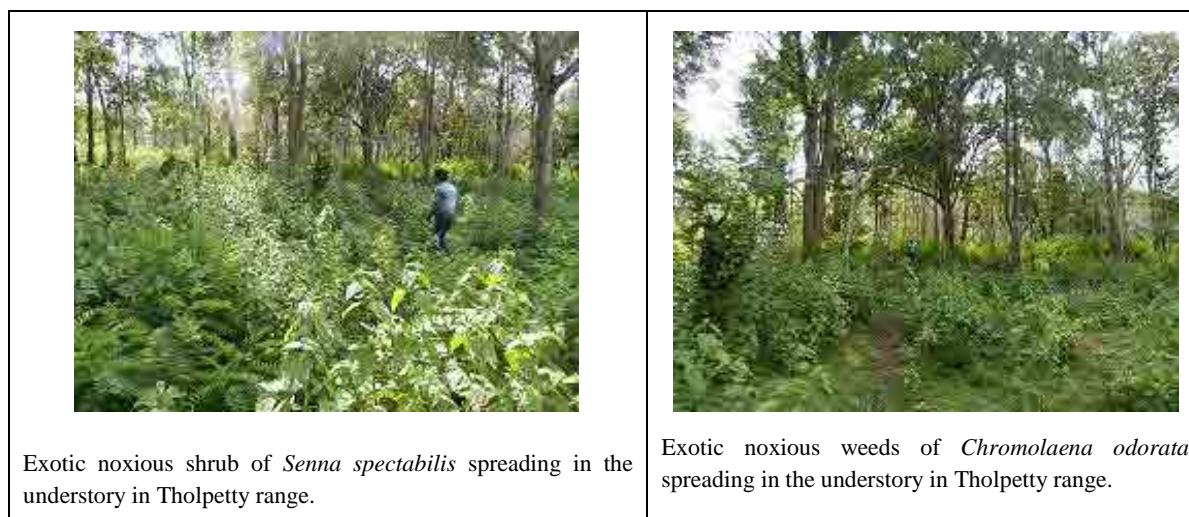


Figure 2 Proposed Sites of ANR of Understory Management

Source: JICA Survey Team (2014) based on the field survey in Wayanad Wildlife Sanctuary

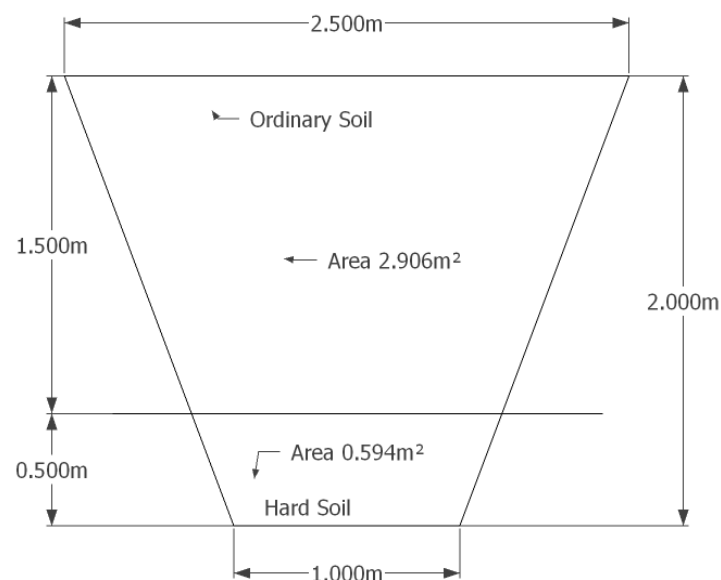


Figure 3 Basic Design of Elephant Proof Trench

Source: JICA Survey Team (2014) based on the review of "Schedule of Rates 2008, Volume-I & II" issued by the Public Works Department of the Government of Kerala

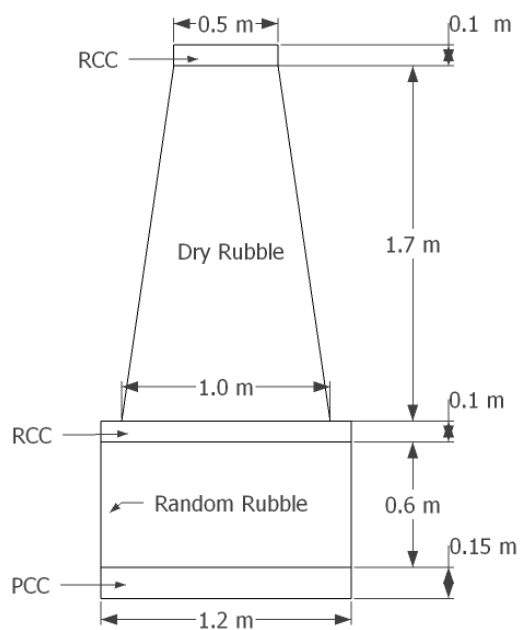


Figure 4 Basic Design of Elephant Proof Stone Wall

Source: JICA Survey Team (2014) based on the review of "Schedule of Rates 2008, Volume-I & II" issued by the Public Works Department of the Government of Kerala



Elephant proof trench surrounded in a compound of field guard station in Kurichiat range in Wayanad Wildlife Sanctuary



Elephant proof solar power fence installed on the boundary of state forest land in Wayanad North Division

Figure 5 Example of the Elephant Proof Protection Facilities in the Fields

Source: JICA Survey Team (2014) based on the field survey

Attachment III 16.2.2 Basic Design of the Proposed Community Infrastructures

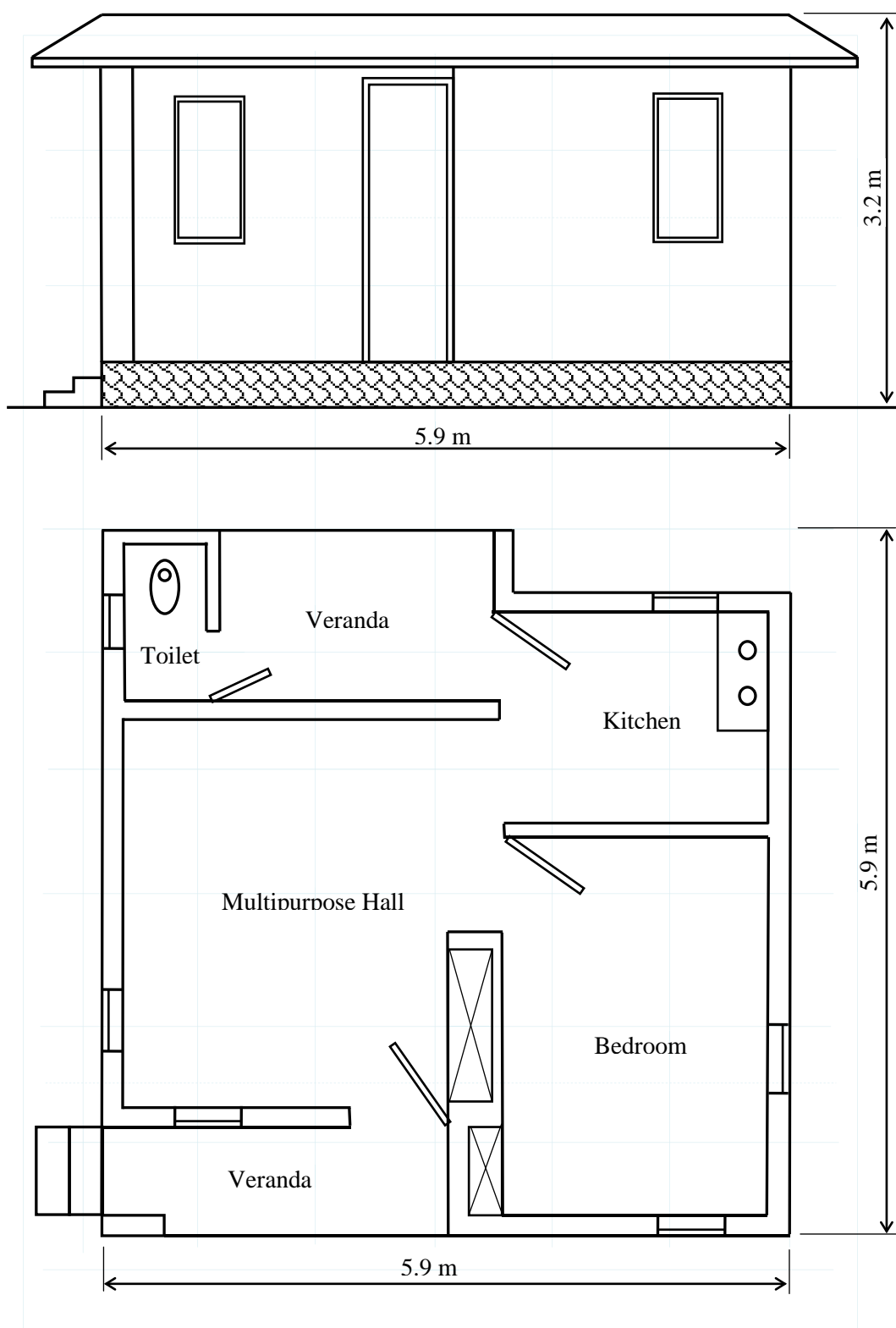
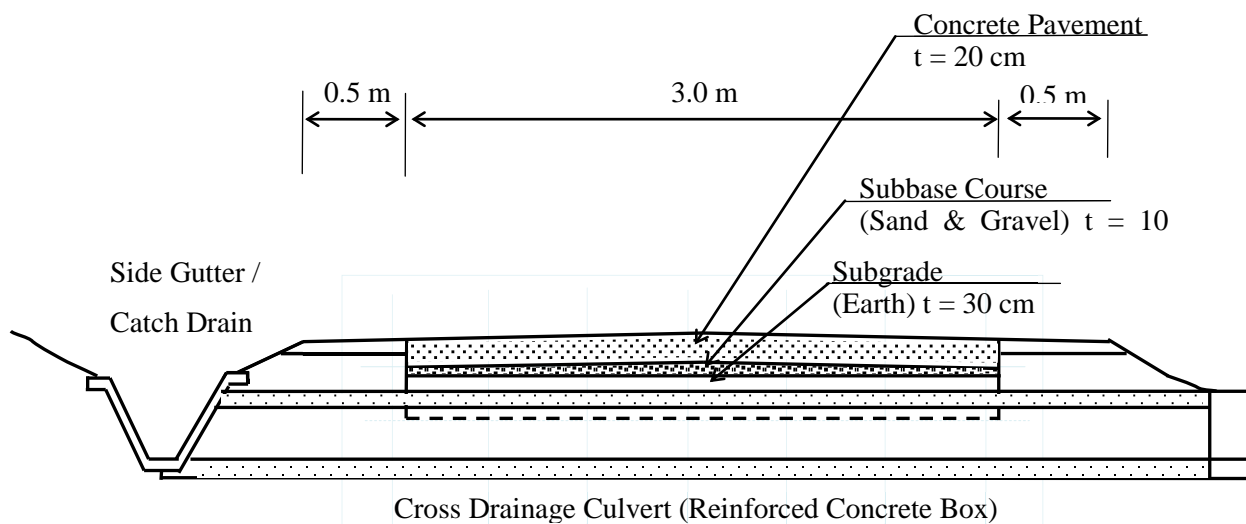
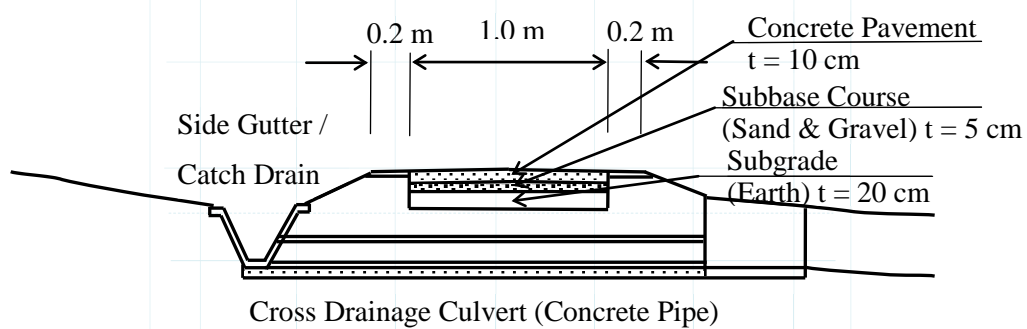


Figure 1 Layout of House



3.0m Width Pavement Road (For Vehicle & Pedestrian)



1.0m Width Pavement Road (Footpath)

Figure 2 Typical Sections of Access Road

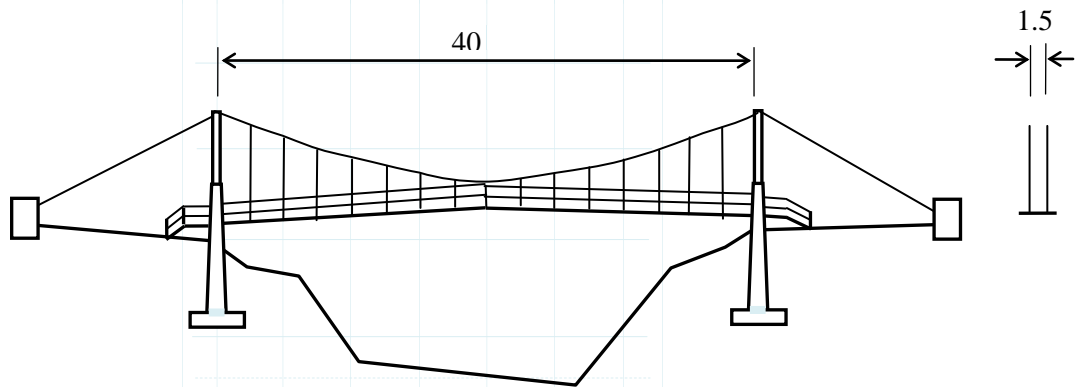
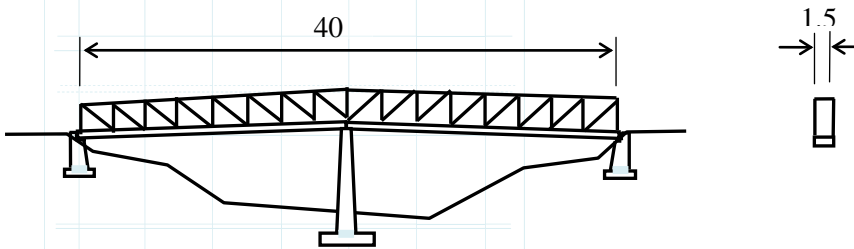
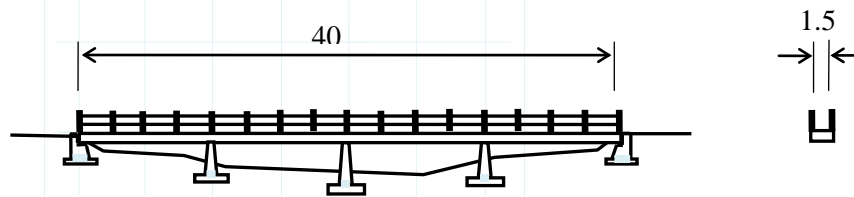
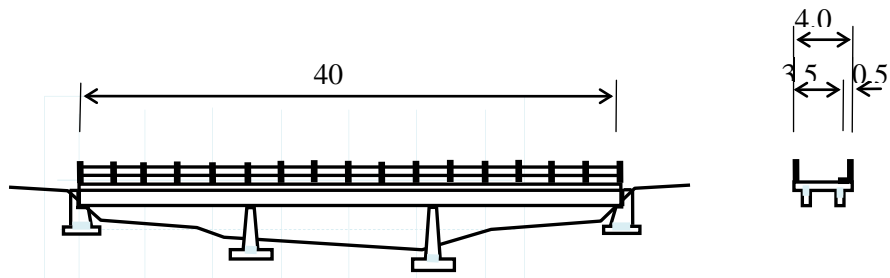


Figure 3 Typical Sections of Access Bridge

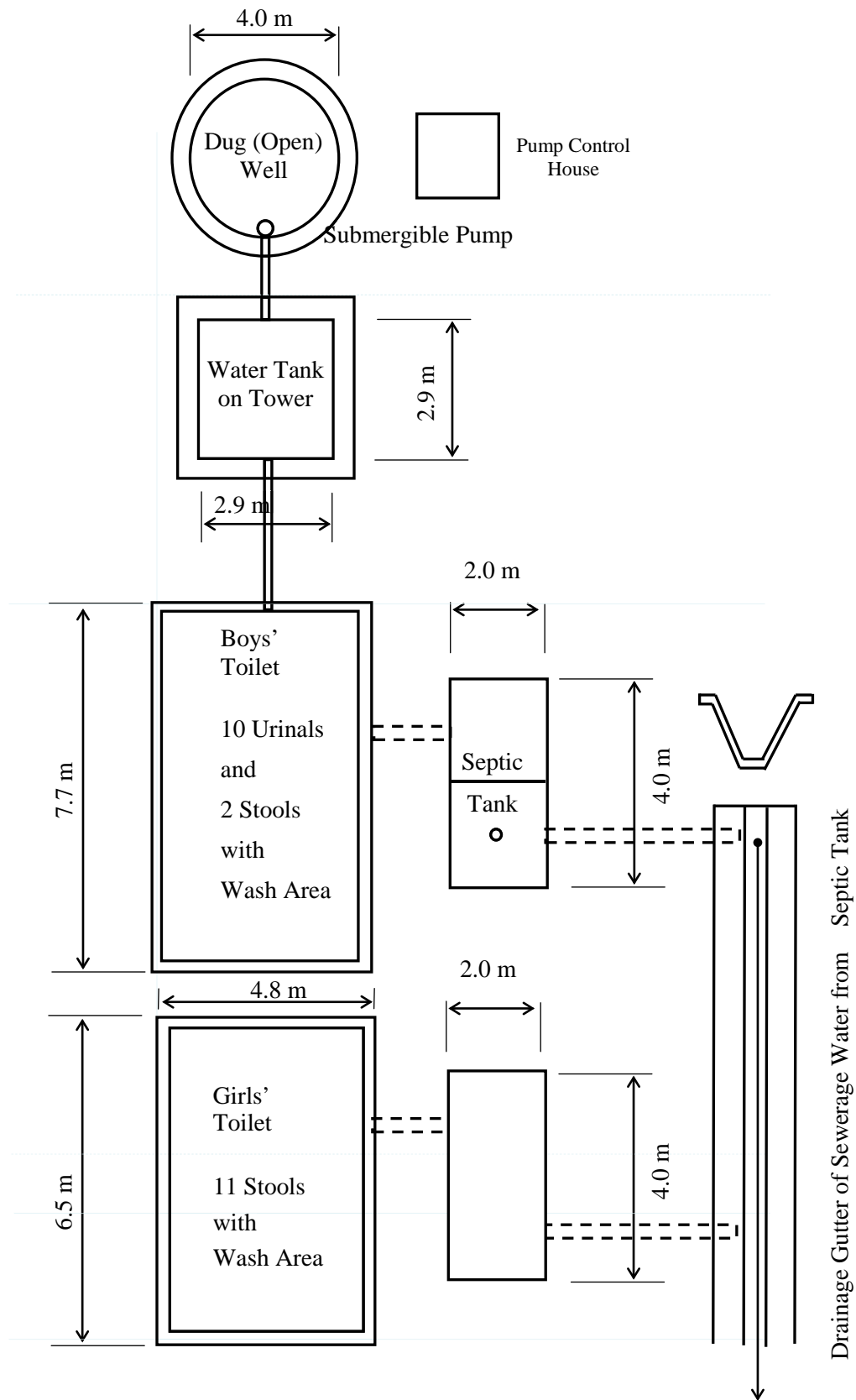


Figure 4 Layout of School Toilet

Attachment III 16.2.3 Terms of Reference (ToR) for Project Management Consultants (PMC)

1. Objectives of the Consulting Services

The objective of the Consulting Services for the Project is to assist the Executing Agency, Project Management Unit (PMU) which is established by the Executing Agency at the project site for implementation of project activities and People's Institutions (PIs) in executing Project activities as planned and achieving the Project objectives by extending overall technical and managerial assistance in project implementation and enhancing the effective and efficient project implementation process. In addition, the envisaged consulting services will include the assistance to the Executing Agency and PMU for Phase – out/ Phase – in works for enhanced sustainability.

2. Scope of the Consulting Services

The scope of the services of PMC is as below:

1. Assist the Executing Agency in pursuing effective and efficient project management
2. Assisting the Executing Agency in formulating a comprehensive plan of operation
3. Assisting the Executing Agency in preparing various guidelines, manuals and booklets
4. Assisting the Executing Agency in developing monitoring system and MIS
5. Assisting the Executing Agency and PIs in procuring necessary equipment
6. Assisting the Executing Agency in fund management and smooth communication between the Executing Agency and the donor agency
7. Providing technical assistance to the Executing Agency, PIs , contractors and NGOs in the execution of their works in preparatory works, capacity development, community organizing, micro-planning/annual implementation planning, work quantity estimation, NTFP development, IGA/micro-enterprise development, natural environment improve and phase-out/phase-in works
8. Providing sufficient handholding support to PIs through PMU
9. Providing technical assistance to the Executing Agency in undertaking Phase-out/ Phase-in works

3. Service Duration

8 years (96 months)

4. Terms of Reference of Each Specialist

International Consultants

1. Team Leader/ Community Development (63 Person Months)

1. To assist the Executing Agency in;
 - a) preparing an overall project implementation plan and managing the project activities
 - b) providing technical advices in methodologies and approaches in community development in Wayanad district
 - c) monitoring the work progress and financial progress in compliance with the Project design

- d) preparing/ reviewing guidelines and manuals to be used in the Project
 - e) communicating with multi level stakeholders
 - f) undertaking Phase-in/ Phase-out works
 - g) preparing periodical reports to JICA
2. To assist PMU and PIs in;
 - a) planning, implementing and monitoring the work progress
 - b) identifying research and development needs for research and development and designing research projects
 - c) ensuring community participation
 - d) monitoring financial progress and ensuring transparency
 - e) establishing operation and maintenance system
 - f) acquiring necessary skills and knowledge in operation and maintenance of assets
 3. To prepare work plan of PMC
 4. To assess the requirement of short term consultants to be deployed during the service period in consultation with the Executing Agency and PMU
 5. To design TOR of the short term consultants in consultation with the Executing Agency and PMU
 6. To mobilise the short term consultants and supervise their works
 7. To provide guidance and supervision to the national specialists of PMC
 8. To monitor the performance of PMC
 9. To prepare periodical report and report to the Executing Agency

2. Community Infrastructure/ Contract Management (59 Person Months)

1. To assist the Executing Agency in;
 - a) preparing overall work plan for the community infrastructure development component
 - b) procuring contractors in undertaking the major infrastructure works and necessary equipments
 - c) monitoring the procurement process as per the applicable laws and regulations
 - d) evaluating the proposals submitted by the bidders
 - e) monitoring the performance of the contractor and assessing the achievement
 - f) designing MOU to be exchanged between the Executing Agency and PIs
 - g) validating the work executed by the contractor
 - h) designing operation and maintenance procedure and preparing necessary documents and conducting training programmes for the PIs and other relevant stakeholders
 - i) undertaking Phase-out/ Phase-in works
2. To assist PMU in;
 - a) preparing field level work plan
 - b) designing a MOU to be exchanged by the Executing Agency and
 - c) establishing contract monitoring system for PMU to monitor the contract status with the

PIs

- d) preparing a design/ specification of the infrastructure and work procedures to be followed by PIs
 - e) providing guidance in document/ record maintenance by PMU and PIs
 - f) providing technical guidance to PIs
 - g) validating the work done by PIs
 - h) designing operation and maintenance procedure and prepare necessary documents and conducting training programmes for the PIs and other relevant stakeholders
 - i) establishing operation and maintenance system
- 3. To prepare work plan according to the TOR
 - 4. To provide technical guidance to the Community Infrastructure Specialist – Civil Engineer (National) and monitor the performance
 - 5. To prepare periodic and field visits reports and submit to the Team Leader
 - 6. To undertake any other tasks directed by the Team Leader

3. Forestry (42 Person Months)

- 1. Assist the Executing Agency in:
 - a) formulating overall strategy and work plan for the natural environment improvement including identifying the target areas and VSSs/EDCs for the Project activities,
 - b) identifying appropriate mitigation measures for human-animal conflicts in the target areas,
 - c) developing guidelines and manuals for VSS/ EDCs in micro planning and organisational management including benefit sharing,
 - d) procuring individual consultant to facilitate the trainings and other programs, contractor of construction and agency/institution to conduct survey/research,
 - e) formulating overall strategy and work plan for the forestry/ environment conservation
 - f) identifying appropriate mitigation measures for human-animal conflicts
 - g) developing guidelines and manuals for VSS/ EDCs in micro planning and organisational management including benefit sharing
 - h) monitoring the procurement process as per the applicable laws and regulations
 - i) evaluating the proposals submitted by the bidders
 - j) monitoring the performances and outputs of the contractor's works
 - k) designing MOU to be exchanged between the Executing Agency and PIs
 - l) validating the work executed by the contractor
 - m) designing operation and maintenance procedure and preparing necessary documents and conducting training programmes for the PIs and other relevant stakeholders
 - n) establishing operation and maintenance system
- 2. To provide technical guidance to the national experts of Participatory Forest Management/ Wildlife Management, Eco-tourism and NTFP.

3. To assist the VSSs/EDCs in;
 - a) preparing the Micro Plan
 - b) designing a MOU to be exchanged by the Executing Agency and
 - c) providing guidance in document/ record maintenance by the VSSs/EDCs
 - d) providing technical guidance to the VSSs/EDCs
 - e) validating the work done by the VSSs/EDCs
 - f) acquiring required knowledge and skills in undertaking operation and maintenance
4. To provide technical guidance to the Participatory Forest Management/ Wildlife Management Specialist (national)
5. To prepare work plan according to the TOR
6. To assist the Team Leader in management of the PMC and interacting with other stakeholders
7. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader
8. To undertake any other tasks directed by the Team Leader

4. Short Term Consultants (16MM)

Short term consultants of the relevant specialised areas in response to the field requirement. The detailed TOR will be designed by the Team Leader of PMC in consultation with the Executing Agency and PMU.

National Consultants

1. Co-Team Leader/ Livelihood (88 Person Months)

1. To assist the Executing Agency in:
 - a) formulating an overall work plan for livelihood component
 - b) conducting resource assessment and market survey
 - c) formulating the overall IGA development plan and business plans
 - d) preparing guidelines and manuals for IGAs, management of corpus fund and other related topics;
 - e) planning capacity development activities for field level staff and SHGs
 - f) planning and conducting IGA-related research and development activities.
 - g) monitoring the work progress of livelihood component
 - h) providing appropriate technical guidance at the field level
 - i) planning and undertaking Phase-out; Phase-in works
2. To assist Field Level Unit and SHGs in:
 - a) preparing work plan for livelihood component
 - b) preparing operation manual for Cluster Federation, Cluster level organisations and SHGs
 - c) designing manual for corpus fund management

- d) mobilising community members for formation of SHGs
 - e) planning field level capacity development activities
 - f) facilitating convergence
 - g) identifying research and development needs for research and development and designing research projects
 - h) providing advices in resolving livelihood related issues other than IGAs
 - i) monitoring the performance of SHGs
 - j) acquiring technical knowledge and skills in operation and maintenance
 - k) establishing operation and maintenance system
 - l) establishing linkage with other relevant organisations
3. To prepare work plan according to the TOR
 4. To assist the Team Leader in management of the PMC and interacting with other stakeholders
 5. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader
 6. To undertake any other tasks directed by the Team Leader

2. Enterprise Development/ Marketing (73 Person Months)

1. To assist PMU in;
 - a) conducting resource assessment and market survey
 - b) identifying potential IGA activities
 - c) preparing Cluster Development Plan
 - d) mobilising community members for formation of SHGs
 - e) preparing manuals for Cluster level organisations to undertake IGAs
 - f) identifying markets
 - g) developing marketing and market development strategy
 - h) identifying options for value addition and innovation and develop appropriate capacity development plan
 - i) identifying private companies/ government agencies for collaboration in product and skills development and marketing
 - j) identifying research and development needs for value addition, marketing and production and designing research and development projects
 - k) mentoring the performance of cluster level organisations
 - l) preparing phase-out/ phase-in plans
 - m) undertaking Phase-out/ Phase-in works
2. To prepare work plan according to the TOR
3. To assist the Team Leader in management of the PMC and interacting with other stakeholders
4. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader

5. To undertake any other tasks directed by the Team Leader

3. Eco Tourism (23 Person Months)

1. To assist the Executing Agency in:
 - a) conducting survey to identify the eco tourism sites including local market potentials
 - b) designing destination development plan
 - c) developing strategies for marketing and promotion
 - d) identifying capacity development requirement of stakeholders and designing capacity development plans
 - e) identifying research and development needs in the area of eco tourism and designing projects
 - f) identifying local collaborators and establish linkages
 - g) developing implementation and investment plan
 - h) executing the destination development, management and marketing of ecotourism products
 - i) establishing operation and maintenance system including necessary documents to be used by the concerned parties in the post project period
2. To prepare work plan according to the TOR
3. To assist the Team Leader in management of the PMC and interacting with other stakeholders
4. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader
5. To undertake any other tasks directed by the Team Leader

4. Participatory Forest Management/ Wildlife Management (54 Person Months)

1. To assist the Executing Agency in :
 - a) preparing Work Plan for Natural Environment Improvement component
 - b) mobilising/ reactivating/ selecting VSSs/ EDCs for the project activities
 - c) developing manuals for the VSSs/ EDCs for micro planning, group management and etc.
 - d) undertaking Phase-out/ Phase-in works
2. To assist Field Level Unit and PIs in:
 - a) preparing micro plans
 - b) designing MOU to be exchanged between the PMU and PIs
 - c) providing guidance in implementing mitigation measures for human-wildlife conflicts
 - d) implementing micro plans
 - e) monitoring the work progress
 - f) providing technical guidance to PMU and PIs in forest and environment conservation

activities

- g) establishing operation and maintenance system
 - h) acquiring knowledge and skills for operation and maintenance works
3. To prepare work plan according to the TOR
 4. To assist the Team Leader in management of the PMC and interacting with other stakeholders
 5. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader
 6. To undertake any other tasks directed by the Team Leader

5. NTFP development (42 Person Months)

1. To assist Field Level Unit in :
 - a) conducting NTFP resource assessment and market survey
 - b) identifying potential NTFPs that can be used for livelihood improvement of VSS/ EDC/ SHGs
 - c) developing NTFP based livelihood improvement activity plans that are suitable for VSS/ EDC/ SHGs along with the Livelihood specialist (Co-Team Leader/ National) and Enterprise Development/ Marketing Specialist (National)
 - d) implementing NTFP based livelihood improvement activity plans
 - e) developing capacity development plans for VSS/ EDC/ SHGs
 - f) monitoring the work progress
 - g) identifying potential partners in marketing, product development and skills enhancement
 - h) undertaking Phase-out/ Phase in works
 - i) facilitating technical transfer relevant for operation and maintenance of the physical and human assets created under the project
2. To prepare work plan according to the TOR
3. To assist the Team Leader in management of the PMC and interacting with other stakeholders
4. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader
5. To undertake any other tasks directed by the Team Leader

6. Monitoring & Evaluation/ MIS (36 Person Months)

1. To assist the Executing Agency in:
 - a) establishing the effective and efficient monitoring system;
 - b) procuring facilities and equipments for M & E and MIS
 - c) procuring contractors for baseline survey, periodical assessments, MIS establishment and other related activities
 - d) supervising the work of the above contractors and ensuring qualities of their outputs

- e) preparing guidelines and manuals required for M&E and MIS
 - f) operationalising Financial Management Information System and MIS
 - g) conducting field validation and preparing physical and financial progress report
 - h) compiling billing data
 - i) providing progress data and information required to be used by management of the Executing Agency and JICA for review and appropriate decision making
 - j) maintaining the Financial Management Information System and MIS
 - k) designing, reviewing and revising a list of project performance indicators for monitoring and evaluation and developing methodologies for verification to each indicator
 - l) compiling periodical M & E reports
 - m) organising annual review meetings
2. To assist PMU in field validation
 3. To train Executing Agency and PMU in Financial Management Information System and MIS
 4. To assist PMU and Executing Agency in establishing operation and maintenance of the MIS system as required
 5. To prepare work plan according to the TOR
 6. To assist the Team Leader in management of the PMC and interacting with other stakeholders
 7. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader
 8. To undertake any other tasks directed by the Team Leader

7. Environment and Social Safeguard (18 Person Months)

1. To develop environmental safeguard manual for the project
2. To prepare environmental examination reports in accordance with existing rules and regulation
3. To prepare environmental requirements for the project during the consulting service period
4. To monitor the environmental impact of the project during consulting service period
5. To support the Executing Agency in the identification and application of area rehabilitation systems, technologies and species (Reforestation, ANR, and agriculture) that are responsive to climate change during the consulting service period
6. To monitor and document environmental impact of the project during the consulting service period
7. To prepare work plan according to the TOR
8. To assist the Team Leader in management of the PMC and interacting with other stakeholders
9. To prepare brief travel reports and monthly accomplishment reports pertaining to his/ her specialty and submit them to the Team Leader
10. To undertake any other tasks directed by the Team Leader

8. Community Infrastructure – Civil Engineer (71 Person Months)

The Specialist will undertake the tasks below in coordination with the Community Infrastructure/ Contract Management Specialist (International).

1. To assist the Executing Agency in;
 - a) preparing overall work plan for the community infrastructure development component
 - b) procuring contractors in undertaking the major infrastructure works and necessary equipments
 - c) monitoring the procurement process as per the applicable laws and regulations
 - d) evaluating the proposals submitted by the bidders
 - e) monitoring the performance of the contractor and assessing the achievement
 - f) designing MOU to be exchanged between the Executing Agency and PIs
 - g) validating the work executed by the contractor
 - h) designing operation and maintenance procedure and preparing necessary documents and conducting training programmes for the PIs and other relevant stakeholders
 - i) undertaking Phse-out/ Phase-in works
2. To assist PMU in;
 - a) preparing field level work plan
 - b) designing a MOU to be exchanged by the Executing Agency and
 - c) establishing contract monitoring system for PMU to monitor the contract status with the PIs
 - d) preparing a design/ specification of the infrastructure and work procedures to be followed by PIs
 - e) providing guidance in document/ record maintenance by PMU and PIs
 - f) providing technical guidance to PIs
 - g) validating the work done by PIs
 - h) designing operation and maintenance procedure and prepare necessary documents and conducting training programmes for the PIs and other relevant stakeholders
 - i) establishing operation and maintenance works
3. To prepare work plan according to the TOR
4. To work in coordination with the Community Infrastructure/ Contract Management Specialist (International)
5. To prepare periodic and field visits reports and submit to the Team Leader
6. To undertake any other tasks directed by the Team Leader

Allocation of Person Months

International		National	
Position	Person Months	Position	Person Months
Team Leader (Community Development)	63	Co-Team Leader (Livelihood)	88
Community Infrastructure/ Contract Management	59	Enterprise Development/ Marketing	73
Forestry Expert	42	Eco tourism	23
		Participatory Forest Management /Wildlife Management	54
		NTFP development	42
		Monitoring & Evaluation/ MIS	36
		Environment and Social Safeguard	18
		Community Infrastructure- Civil Engineer	71
Total	164		405

Attachment II 16.4.1 Detailed Implementation Schedule

Work Components/Sub-components		Fiscal Year (April-March)											
		0-yr			1st-yr			2nd-yr			3rd-yr		
0 Fund Arrangement and Procurement of Project Management Consultants													
0.1	Fund Arrangement												
0.1.1	Pledge												
0.1.2	Loan Agreement												
0.1.3	Effectuation of the Loan												
0.2	Procurement of Project Management Consultants												
I. Institutional Arrangement and Setting Up Executing Agency													
1.1	Development of Structural Organization of AHADS-CCPRM												
1.2	Preparation of Operation Manual of PMU												
1.3	Forming Project Advisory Committee												
1.4	Posting Deputation Position of AHADS-CCPRM												
1.5	Recruiting Staff of AHADS-CCPRM												
1.6	Arrangement of PMU Office (by renting)												
II Preparatory Work													
2.1	Preparatory Work for Livelihood Improvement Work												
2.1.1	Target Selection and Formation of Peoples' Institutions (PIs)												
	(1) Batch-1 (100 SHGs)												
	(2) Batch-2 (120 SHGs)												
	(3) Batch-3 (80 SHGs)												
2.1.2	Formulation of IGA Development Plan												
2.1.3	Development of IGA Development Guidelines and Manuals												
2.1.4	Coordination Meeting with Field Level Support Organization												
2.2	Preparatory Work for Natural Environment Improvement												
2.2.1	Area Identification for Intervention												
	(1) Preparation of Criteria to Identify Intervention areas												
	(2) Identification of Intervention Areas												
	(3) Identification of Target Community to Formulate New VSSs/EDCs												
2.2.2	Preparation of Handbook and Training Materials to implement PFM												

[illegible]

Work Components/Sub-components		Fiscal Year (April-March)																													
		0-yr			1st-yr			2nd-yr			3rd-yr			4th-yr			5th-yr			6th-yr			7th-yr			8th-yr			9th-yr		
2.4	Preparatory Work for Community Infrastructure Development (Access Roads and Bridges)																														
2.4.1	Preparatory Work for Access Road Construction																														
	(1) Site Selection, Plan and Design																														
	(2) Formation of Working Groups for Access Road Construction																														
	(3) Preparation of Construction Manual for Road Construction																														
2.4.2	Preparatory Work for Bridge Construction																														
	(1) Site Selection																														
	(2) Plan and Design																														
	(3) Preparation of Tender Documents and Draft Contract Documents																														
2.5	Preparatory Work for Community Infrastructure Development (School Toilet)																														
2.5.1	Selection of Target Schools																														
2.5.2	Plan and Design																														
2.5.3	Preparation of Tender Documents and Draft Contract Documents																														
2.6	Preparatory Work for Upgrading Medical Care Equipment/Facilities of CHCs/PHCs																														
2.6.1	Confirmation of Requirement of Medical Check and Treatment Equipment																														
2.6.2	Preparation of Tender Documents and Draft Contract Documents for Procurement																														
2.7	Preparatory Work for Construction of VSSs/EDCs office																														
2.7.1	Identification of Target VSSs/EDCs																														
2.7.2	Plan and Design																														
2.8	Preparatory Work for Construction of an Interpretation Center for Eco-tourism																														
2.8.1	Site Selection																														
2.8.2	Plan, Design of an Interpretation Center for Eco-tourism																														
2.8.3	Preparation of Tender Documents and Draft Contract Documents																														
2.9	Preparatory Work for Construction of Cluster Facility Centre (CFC) Building																														
2.9.1	Site Selection																														
2.9.2	Plan and Design																														
III. Institutional Strengthening																															
3.1	Procurement of Furniture, Facilities and Equipment for PMU Office																														

Work Components/Sub-components		Fiscal Year (April-March)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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**Attachment II 16.5.1 Details of Proposed Procurement and Implementation Method
Wayanad Comprehensive Environment Conservation and Community Development**

Proejct Components/ Sub-Components		Procurement Method	Implementation Method
I.	Institutional Arrangement and Setting Up Executing Agency	Direct work by AHADS-CCPRM	Direct Undertaking by AHADS-CCPRM
	1.1 Development of Structural Organization of AHADS-CCPRM		
	1.2 Preparation of Operation Manual of PMU		
	1.3 Forming Project Advisory Committee		
	1.4 Posting Deputation Position of AHADS-CCPRM		
	1.5 Recruiting Staff of AHADS-CCPRM		
	1.6 Arrangement of PMU Office (by renting)		
II	Preparatory Work		
	2.1 Preparatory Work for Livelihood Improvement Work		
	2.1.1 Target Selection and Formation of Peoples' Institutions (PIs)	Direct work by PMU	Selection of the families by Grama Sabha and PMU Formation of SHGs by PMU Approval by PMU
	2.1.2 Formulation of IGA Development Plan	Employment of individual consultant or outsourcing to experienced NGO on contractual basis	Preparation of the plan, guidelines and manual by the consultant with research/survey and in consultation with the relevant organization/agencies Approval by PMU
	2.1.3 Development of IGA Development Guidelines and Manuals		
	2.1.4 Coordination Meeting with Field Level Support Organizations	Direct work by PMU	Meeting with the organizations
	2.2 Preparatory Work for Natural Environment Improvement		
	2.2.1 Area Identification for Intervention	Direct work by PMU staff members	Meeting attended by PMU staffs and FD officers concerned (RO, Section officer)
	2.2.2 Preparation of handbook and training materials to implement PFM	Direct contact to the competent institutions	Preparation of handbook and training manuals by the outsourced institute
	2.2.3 Institutionalisation of New VSSs/EDCs	Direct work by PMU staff members	Meeting/workshop attended by VSS/EDC members Facilitation by PMU staff members assisted by PMC
	2.2.4 Institutional Restoration of Existing VSSs/EDCs	Direct work by PMU staff members	Meeting/workshop attended by VSS/EDC members Facilitation by PMU staff members assisted by PMC
	2.2.5 Area Demarcation, Survey and Mapping for VSSs/EDCs	Direct work by PMU staff members	Field survey with GPS to fix boundary and prepare the digital map Collaboration of PMU and VSS/EDC members supported by PMC
	2.2.6 Preparation of Micro Plan	Voluntary work by VSSs/EDCs concerned	Facilitation by PMU staff assisted by PMC Approval by DED Forestry/Wildlife (additional position of Chief Conservator) of PMU
	2.2.7 Preparation of the fund to conduct the activities	Direct work by PMU	Prepare annual work plan and action plan by PMU
	2.3 Preparatory Work for Housing Work		

Proejet Components/ Sub-Components			Procurement Method	Implementation Method
	2.3.1	Identification of Beneficiary Households	Empoyment contractual field staff by application	Request Grama Sabah for identifying candidate sites Selection of the site by the field staff in consultation with the Grama Sabah
	2.3.2	Plan and Design	Employement individual consultants	Preparation by the consultants Approval by PMU
	2.3.3	Preparation of Construction Manual		
	2.3.4	Formation of Working Group	Empoyment contractual field staff by application	Request Grama Sabah for identifying interest familiies in construction of the house Selection of the families by the field staff in consultation with the Grama Sabah concerned Approval by PMU Forming the Working Groups
2.4 Preparatory Work for Roads & Bridges Construction				
	2.4.1 Preparatory Work for Access Road Construction			
		(1) Site Selection, Plan and Design	Employement individual consultants	Request Grama Sabah for identifying candidate sites Selection of the site by the consultant in consultation with the Grama Sabah concerned Approval by PMU
		(2) Formation of Working Groups for Access Road Construction	Empoyment contractual field staff by application	Request Grama Sabah for identifying candidate sites Selection of the site by the field staff in consultation with the Grama Sabah concerned Approval by PMU
		(3) Preparation of Construction Manual for Road Construction	Employement individual consultants	Preparation by the consultants Approval by PMU
	2.4.2 Preparatory Work for Bridge Construction			
		(1) Site Selection	Direct work by PMU	Request Grama Sabah for identifying candidate sites Selection of the site by PMU in consultation with the Grama Sabah concerned
		(2) Plan and Design	Outsourcing to local consultants / entities through local competitbve bidding	Preparation of TOR for the work by PMU Plan/degin and prepararion of documents by the consultant
		(3) Preparation of Tender Documents and Draft Contract Documents		
2.5 Preparatory Work for School Toilet Construction				
	2.5.1	Selection of Target Schools	Direct work by PMU	Request Grama Panchayats for selecting the candidate schools Selection of the target schools in consultation with the Grama Panchayat
	2.5.2	Plan and Design	Outsourcing to local consultants / entities through local competitbve bidding	Preparation of TOR for the work by PMU Plan/degin and prepararion of documents by the consultant
	2.5.3	Preparation of Tender Documents and Draft Contract Documents		
2.6 Preparatory Work for Upgrading Medical Care Equipment/Facilities of CHCs/PHCs				
	2.6.1	Confirmation of Requirement of Medical Check and Treatment Equipment	Direct work by PMU	Inquiry to the CHC/PHC concerned

Proejet Components/ Sub-Components			Procurement Method	Implementation Method
	2.6.2	Preparation of Tender Documents and Draft Contract Documents for Proecurement	Direct work by PMU	Preparation by PMU in consultation with Health Department
	2.7	Preparatory Work for Construction of VSSs/EDCs office		
	2.7.1	Identification of target VSSs/EDCs	Direct work by PMU staffs	Meeting attended by PMU, RO, section forest officer and EC members of VSSs/EDCs
	2.7.2	Plan and Design	Employ individual consultant by application	Preparation of plan and design by the individual consultant Supervision by PMU
	2.8	Preparatory Work for Construction of an Interpretation Center for Eco-tourism		
	2.8.1	Site Selection	Direct work by PMU	Discussion and field verification attended by PMU, VSS/EDC members, FD staffs and staff of Tourism Dept.
	2.8.2	Plan, design of an Interpreration Center for Eco-tourism	Employment of individual consultant by application	Preparation of plan and design by the individual consultant supervised by PMU staff members
	2.8.3	Preparation of Tender Documents and Draft Contract Documents	Employment of individual consultant by application	Preparation of the documents by the individual consultant supervised by PMU staff members
	2.9	Preparatory Work for Cluster Facility Centre Building		
	2.9.1	Site Selection	Direct work by PMU	Identification of candiate sites by Cluster Management Committee Select the site by PMU in consultation with the Committee
	2.9.2	Plan and Design	Employment of individual consultant by application	Plan and design by the consultant Supervision by PMU
III. Institutional Strengthening				
	3.1	Procurement of Furniture, Facilities and Equipment for PMU	Price quotation basis	Procurement by the selected suppliers
	3.2	Construction of VSSs/EDCs Office Building	Contractual basis through the VSSs/EDCs concerned Employ consultants/institutions throug local competitive bidding	Construction by the VSSs/EDCs Technical guidance by th consultants/institutions Supervision by PMU
	3.3	Construction of CFCs for each Cluster	Contractual basis through the Working Group Employ individual consultants for technical guidance	Construction by the Working Group formed by SHG member families Technical guidance by individual consultant Supervision by PMU
	3.4	Procurement of Office Furniture and Equipment for VSS/EDC Offices	Price quotation basis	Procurement by the selected suppliers Supervision by PMU
	3.5	Procurement of Office Furniture and Equipment for CFC Office	Price quotation basis	Procurement by the selected suppliers Supervision by PMU
IV. Capacity Development				
	4.1	Capacity Development of PMU Staff	Outsourcing to training institutse/firms on proposal basis	Procurement by PMU Supervision by PMU
	4.2	Capacity Development for SHGs	Outsourcing to training institutse/firms on proposal basis	Training Needs Assessment/ Development of Training Module and Materials by the agency or an individual Supervision by PMU

Proejct Components/ Sub-Components		Procurement Method	Implementation Method
4.3	Capacity Development of VSS/EDC Members	Direct Work by PMU	Training Work by PMU
		Outsourcing to training organizations on proposal basis	Needs analysis and developmnet of training modules and materials by the outsourced organization Approved by PMU assisted by FD staff members
		Direct work by PMU staffs to conduct the	Trainigs by PMU assisted by FD staff members
V.	Livelihood Improvement Work		
5.1	IGA Development (Non Dairy)	Contract with SHG Cluster Management Committee/ Price quotation/ Out sourcing	MOU between PMU and SHG Cluster Management Committee Procurement of materials and equipments by SHG Cluster Management Committee by price quotation Technical Training by individual consultant or NGOs
5.2	IGA Development (Dairy)	Employment of individual consultant or outsourcing to experienced NGO on contractual basis	Product development work by the technical consultant Supervision by PMU
5.3	Corpus Fund	Direct work by PMU staff	Fund management by Cluster Management Committee Monitoring by PMU staff
5.4	Product Development	Direct work by PMU staff	Skill trainnig of SHG members or outsourcing to experienced NGOs on contrctual basis Quality monitoring by PMU staff
5.5	Marketing	Direct work by PMU staff and employment of individual consultant or Outsorcing to experienced NGO on contractual basis	Market survey, organising exhibition, and other marketing activities
5.6	Livelihood Support Services	Direct work by PMU	Identification of livelihood needs through visiting SHG members training/ Linkage with other programmes to strengthen capacity of SHG members
VI.	Natural Environment Improvement Work		
6.1	Mitigation of Human-Animal Conflict		
	6.1.1 Improvement of Animal Habitat		
	(1) ANR of Understory Vegetation	Contractural basis through VSSs/EDCs	Works done by VSS/EDC members under technical guidance by the Forest Range office concerned
	(2) Water Post Development	Contractural basis through VSSs/EDCs	Works done by VSS/EDC members under technical guidance by the Forest Range office concerned

Proeject Components/ Sub-Components			Procurement Method	Implementation Method	
	6.1.2	Installation of Protection Facilities			
	(1)	Elephant Proof Trench Modified with one-side Stone Wall	Contractural basis through VSSs/EDCs	Works done by VSS/EDC members under technical guidance by the Forest Range office concerned	
		(2)	Elephant Proof Stone Wall	Contractural basis through VSSs/EDCs	Works done by VSS/EDC members under technical guidance by the Forest Range office concerned
		(3)	Elephant Proof Rail Fence	Contractural basis through VSSs/EDCs in constructing rail fence	Construction by VSS/EDC members supported by technical guidance given by individual engineer
				Contract to local supplier to procure, process and transport the rail	
				Employment of individual engineer to instruct the construction	
		(4)	Solar Power Fence	Employment of individual engineer to instruct the construction	Installation by the suppliers/contractors Supervision by PMU
	(5)	Elephant scaring watcher	Contractural basis through VSSs/EDCs	Works done by VSS/EDC members under technical guidance by the Forest Range office concerned	
	6.2	Eco-Restoration			
		6.2.1 Forest Fire Control	Contractural basis through VSSs/EDCs	Works done by VSS/EDC members under technical guidance by the Forest Range office concerned	
	6.3	VSSs/EDCs Development			
		6.3.1	NTFP Development	Employment of individual consultants	Development of business plan and manuals/guideline by the individual consultant
					Marketing resarch done by the individual consultant supervised by PMU
		6.3.2	Eco-tourism Development	Employment of individual consultants	Resource assessment, products development and selling of the products by VSS/EDC members assisted by the individual consultant
					Road/nature trail improvement by VSS/EDC members assisted by the individual consultant
				Preparation of Eco-tourism manual & promotion brochures by the individual	
VII.	Community Infrastructure Development Work				
	7.1	Housing Work	Contractural basis through Working Group formed in the hamlet/colony concerned	Construction by contractors, Technical guidance by local consultant Supervision by PMU	
	7.2	Access Road and Bridge Construction			
		7.2.1	Access Road and Footpath Construction	Contractural basis through Working Groups formed in the hamlet/colony concerned	Construction by Working Groups Supervision by PMU with constructioin manual
		7.2.2	Concrete Road Bridge (w=3.5+0.5=4.0m)、Pedestrian/Steel Truss/Suspension	Contractural basis by local competitive bidding	Construction by local contractors with supervison of PMU

Proejct Components/ Sub-Components		Procurement Method	Implementation Method
	7.3 Renovation of School Toilet	Contractual basis by local competitive bidding	Construction by local contractors Supervision by PMU
	7.4 Upgrading Medical Care Equipment	Contractual basis by local competitive bidding	Procurement by local suppliers Supervision by PMU
VIII.	Research & Development and Dissemination		
	8.1 Enhancement of IGA Development	Employment of individual consultant Outsourcing to experienced NGO on contractual basis	Research and development of prospective IGAs identified by the individual consultant or the NGO Procurement and Supervision by PMU Dissemination of findings through skills training for SHG members
	8.2 Survey and Research for Improvement of ANR of Understory Vegetation	Outsourcing to competent institute through local competitive bidding	Survey and developemnt of improved technology for ANR for restration of invaded understory vegetation by the contracted institute
IX.	Communication and Publication		
	9.1 Website Development	Direct work by PMU	
	9.2 Public Information Drive	Direct work by PMU	
	9.3 Publication	Direct work by PMU for preparation of manuscript Outsourcing for printing	
X.	Monitoring and Evaluation		
	10.1 Preparation of Project M & E Manual	Direct work by PMU	with Assistance by PMC
	10.2 Establishment of Project Management Information System	Direct work by PMU	with Assistance by PMC
	10.3 Establishment of Project Database	Direct work by PMU	with Assistance by PMC
	10.4 Progress Monitoring and Analysis	Direct work by PMU	with Assistance by PMC
	10.5 Evaluation of Project Physical Output	Outsourcing to competent institutes / relevant entities	Field investigation, assessment and report preparation
	10.6 Evaluation of Project Socio Economic Impact	Outsourcing to competent institutes / relevant entities	Field investigation, assessment and report preparation
XI.	Phase-out / Phase-in Works		
	11.1 Completion Certificate of the Project Works	Direct work by PMU	Asset transfer to end users
	11.2 Phase-in Plan for IGA-SHG	Direct work by PMU	with Assistance by PMC
	11.3 Phase-in Plan for VSS/EDC	Direct work by PMU	Meeting attended by VSS/EDC members to discuss the self-reliance activities as directed in the Guideline of PFM in Kerala State Facilitation by PMU staff members assisted by PMC
	11.4 Establishment of Post Project O&M Mechanism	Direct work by PMU	with Assistance by PMC
	11.5 Trial Operation of Phase-in Activities	Direct work by PI s concerned	Monitoring by PMU
XII.	Consultancy Services by Project Management Consultants (PMC)		
		International Competitive Bidding	Assistance and advice