

REPUBLIC OF KENYA
MINISTRY OF DEVOLUTION AND PLANNING

THE PROJECT
FOR
ENHANCING COMMUNITY RESILIENCE
AGAINST DROUGHT
IN NORTHERN KENYA

FINAL REPORT

VOLUME II: ANNEX REPORT (1/2)

DECEMBER 2015

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

NIPPON KOEI CO., LTD.

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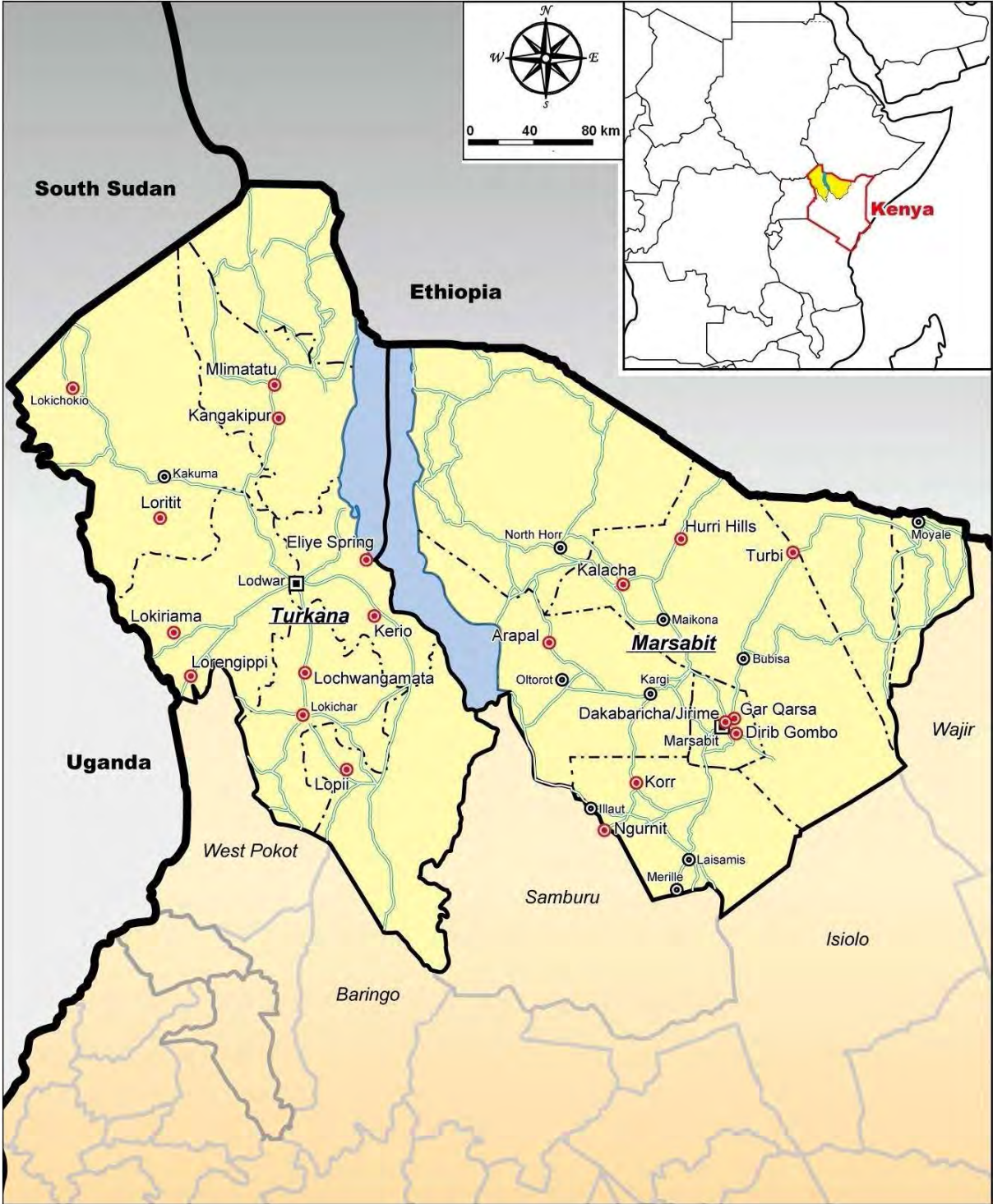
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FINAL REPORT

THE PROJECT FOR ENHANCING COMMUNITY RESILIENCE AGAINST DROUGHT IN NORTHERN KENYA

List of Volumes

VOLUME I	MAIN REPORT
VOLUME II	ANNEX A TARGET COUNTIES AND PILOT COMMUNITIES
	ANNEX B COMMUNITY-BASED DROUGHT MANAGEMENT
	ANNEX C ANTHROPOLOGICAL SPECIAL STUDY FOR EXAMINING RELATION BETWEEN PASTORALIST COMMUNITIES AND THE PROJECT
	ANNEX D SUB PROJECTS – NATURAL RESOURCE MANAGEMENT
	ANNEX E WATER POTENTIAL STUDY IN TURKANA COUNTY
VOLUME III	ANNEX F SUB PROJECTS – LIVESTOCK VALUE CHAIN
	ANNEX G SUB PROJECTS – LIVELIHOOD DIVERSIFICATION
	ANNEX H SUB PROJECTS – PEACE BUILDING
	ANNEX I CAPACITY BUILDING OF GOVERNMENT OFFICERS TO ENHANCE PASTORALISTS RESILIENCE TO DROUGHT
	ANNEX J SUBLETTING WORKS

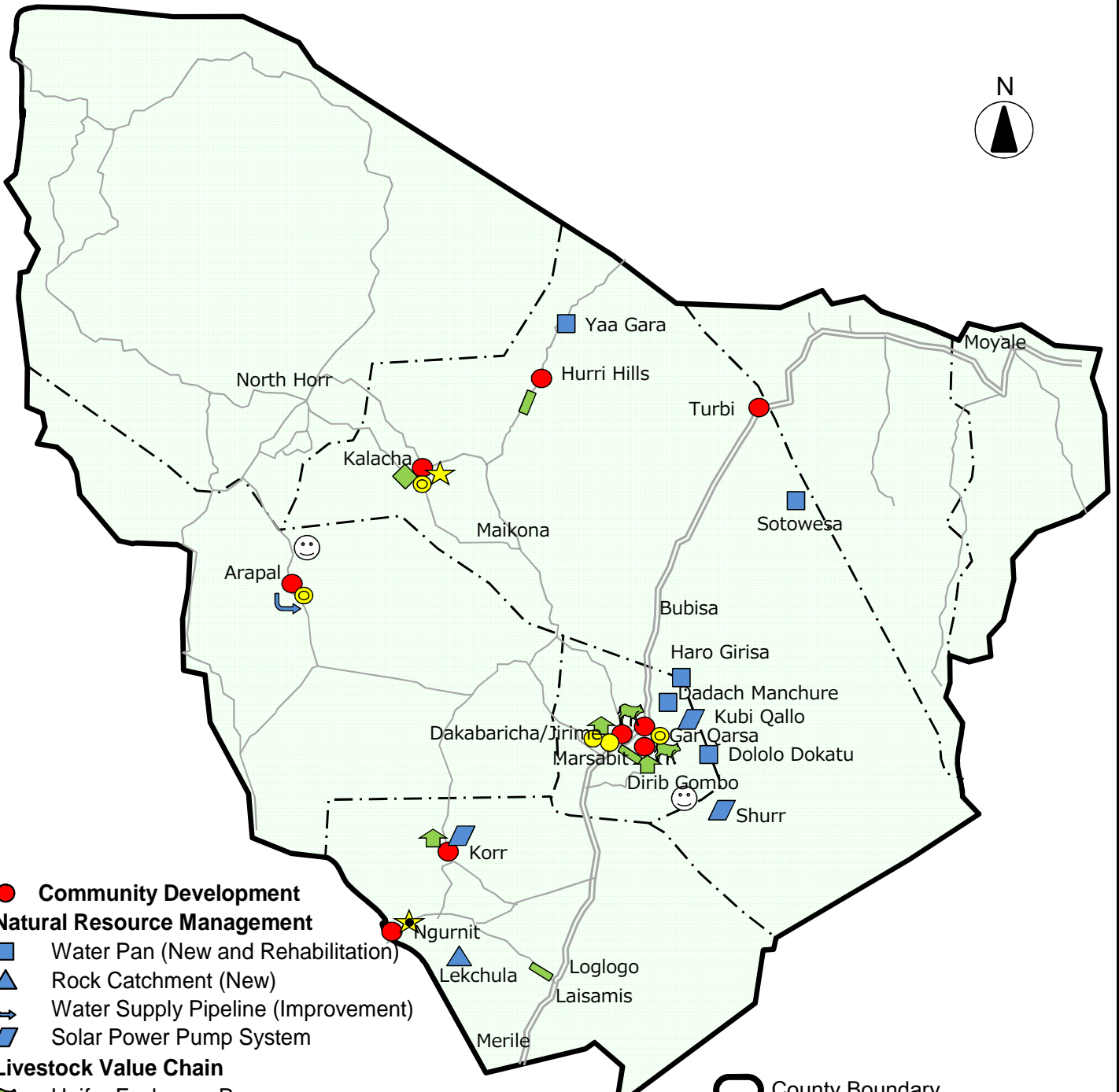
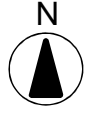


Legend

- Target Counties
- Pilot Communities
- National Boundary
- County Boundary
- Sub-county Boundary
- Lake Turkana
- Main Road
- Town
- Major Communities

Location Map

JICA-ECoRAD Sub-project Map (Marsabit County)



Community Development

Natural Resource Management

- Water Pan (New and Rehabilitation)
- Rock Catchment (New)
- Water Supply Pipeline (Improvement)
- Solar Power Pump System

Livestock Value Chain

- Heifer Exchange Programme
- Feedlot
- Livestock Market
- Rural Road Improvement

Livelihood Diversification

- Chicken Merry-go-round
- Goat Merry-go-round
- Salt Business
- Resin & Honey Business

Peace Keeping

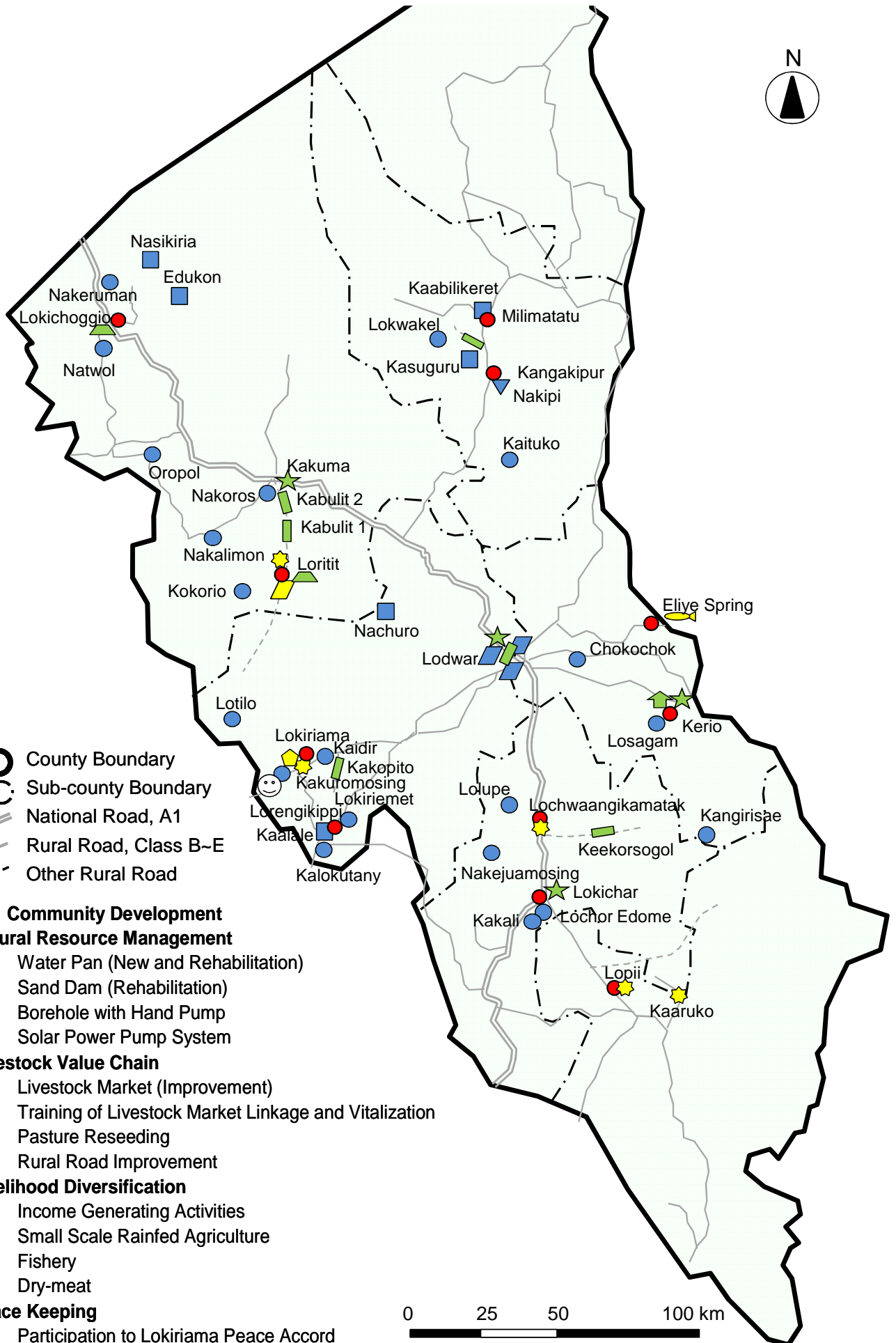
- Peace Building

- County Boundary
- Sub-county Boundary
- National Road, A2
- Rural Road, Class B~E
- Other Rural Road

0 25 50 100 km



JICA-ECORAD Sub-project Map (Turkana County)



List of Abbreviation

A/C, D/C	:	Alternative Current, Direct Current
ADF	:	African Development Fund
ACTED	:	Agency for Technical Cooperation and Development
ADESO	:	Africa Development Solution
AfDB	:	African Development Bank
ALRMP	:	Arid Lands Resource Management Project
AMCEN	:	African Ministerial Conference on the Environment
Apad	:	Agency for Pastoralists Development
ASAL	:	Arid and Semi-Arid Lands
A.S.L	:	Above Sea Level
BH	:	Borehole
CAP	:	Community Action Plan
CARE	:	Cooperative for Assistance and Relief Everywhere (NGO)
CBPP	:	Contagious Bovine Pleuro-Pneumonia
C&D	:	the Institute for Cooperation and Development
CDC	:	Community Development Committee
CDF	:	Constituency Development Fund
CDW	:	Cold Dressed Weight
CIDP	:	County Integrated Development Plan
CIFA	:	Community Initiative Facilitation & assistance (NGO)
CITES	:	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMDRR	:	Community Managed Disaster Risk Reduction
COBRA	:	Community Based Resilience Analysis
CP	:	Crude Protein
CSG	:	Community Steering Group
DAO	:	District Agricultural Officer
DC	:	Development Committee
DEO	:	District Education Officer
DEM	:	Digital Elevation Model
DFID	:	Department for International Development
DFRD	:	District Focus for Rural Development
DHMT	:	District Health Management Team
DLCI	:	Dry Land and Capacity Building Initiative

DLPO	:	District Livestock Production Officer
DLMC	:	District Livestock Marketing Council
DMC	:	Drought Management Committee
DRR	:	Disaster Risk Reduction
DRRAP	:	Drought Risk Reduction Action Plan
DSG	:	District Steering Group
DVO	:	District Veterinary Officer
EC	:	Electric Conductivity
ECHO	:	Humanitarian Aid Department of the European Commission
ECoRAD	:	The Project for Enhancing Community Resilience against Drought in Northern Kenya
EDRP	:	Emergency Drought Recovery Project
EIA	:	Environmental Impact Assessment
EMC	:	Environmental Management Committee
EU	:	European Union
EWS	:	Early Warning System
FAO	:	Food and Agriculture Organization of the United Nations
FEWS NET	:	Famine Early Warning System Network
FHI, Fhi, fhi	:	Food for the Hungry International (NGO)
GA	:	Grazing Area
GARA	:	Gum and Resins Association
GDP	:	Gross Domestic Product
GIMMS	:	Global Inventory Monitoring and Modeling Studies group
GIS	:	Geographic Information System
GIZ	:	Deutsche Gesellschaft für Internationale Zusammenarbeit
GOK, GoK	:	Government of Kenya
HFA	:	Hyogo Framework for Action
HH	:	Household
IBLI	:	Index Based Livestock Insurance
IBRD	:	International Bank for Reconstruction and Development
ICPAC	:	International Climate Prediction and Application Centre
ICT	:	Information Communication Technology
IGA	:	Income Generating Activity
IGAD	:	Inter-Governmental Authority on Development
ILRI	:	International Livestock Research Institute

IOM	:	International Organization for Migration
ISDR	:	International Strategy for Disaster Reduction
ITK	:	Indigenous Technical Knowledge
JICA	:	Japan International Cooperation Agency
KARI	:	Kenya Agricultural Research Institute
KEFRI	:	Kenya Forest Research Center
KES, Ksh	:	Kenya Shilling
KMC	:	Kenyan Meat Council
KNBS	:	Kenya National Bureau of Statistics
KPLC	:	Kenya Power and Lighting Company Ltd.
KRRRA	:	Kenya Rural Road Authority
LINKS	:	Livestock Information Network Knowledge System
LMA	:	Livestock Market Association
LMD	:	Livestock Marketing Division
LOWASCO	:	Lodwar Water and Sanitation Company Ltd.
LRA	:	Long Rain Assessment
MDG	:	Millennium Development Goal
MDoNK	:	Ministry of State for the Development of Northern Kenya and other Arid Lands
MIS	:	Management Information System
MMC	:	Market Management Committee
MoLD	:	Ministry of Livestock Development
MoSSP	:	Ministry of State for Special Programmes
MOU	:	Memorandum of Understanding
MWI	:	Ministry of Water and Irrigation
NACONEK	:	National Commission on Nomadic Education in Kenya
NASA	:	National Aeronautical and Space Administration
NEMA	:	National Environment Management Authority
NDCF	:	National Drought Contingency Fund
NDMA	:	National Drought Management Authority
NEP	:	North Eastern Province
NEPAD	:	New Partnership for Africa's Development
NGO	:	Non-Governmental Organization
NIB	:	National Irrigation Board
NOAA	:	National Oceanic and Atmospheric Administration
NRM	:	Natural Resource Management

NSWB	:	Northern Water Service Board
OCHA	:	Office for the Coordination of Humanitarian Affairs
O&M	:	Operation and Maintenance
PAG	:	Pastoralist Assistance Group
PFS	:	Pastoralist Field School
PISP	:	Pastoralist Integrated Support Program (NGO)
PR	:	Progress Report
PRA	:	Participatory Rural Appraisal
PRIDP	:	Rural Pastoralist Integrated Development Project
REGAL-IR	:	Resilience and Economic Growth in Arid Lands – Improving Resilience
REGLAP	:	Regional Learning and Advocacy Programme
RPLRP	:	Regional Pastoral Livelihoods Resilience Project
RVWSB	:	Rift Valley Water Service Board
SIDA	:	Swedish International Development Cooperation Agency
SME	:	Small and Medium-sized Enterprise
SRA	:	Short Rain Assessment
SRTM	:	Shuttle Radar Topography Mission
SSD	:	Caritas Moroto
STUCCO	:	Society of Turkana County Contractors
TDS	:	Total Dissolved Solid
TGDP Map	:	Turkana Groundwater Development Potential Map
TOR	:	Terms of Reference
TWADO	:	Turkana Women Advocacy Development Organization
TWP	:	Turkana Water Project
UN	:	United Nations
UNDP	:	United Nations Development Programme
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
UNHCR	:	United Nations High Commissioner for Refugees
UNICEF	:	United Nations Children's Fund
UNISDR	:	United Nations International Strategy for Disaster Reduction
USAID	:	United States Agency for International Development
VICOBA	:	Village Community Banking
WASH	:	Water, Sanitation and Hygiene
WB	:	World Bank
WDMA	:	Water Development Assessment and Mapping

WDF	:	Women Development Fund
WESCOORD	:	Water and Environmental Sanitation Coordination
WFP	:	World Food Program
WRA	:	Water Resource Assessment
WRMA	:	Water Resource Management Authority
WSAM	:	Water Source Assessment and Mapping
WUA	:	Water Users Association
YEDF	:	Youth Enterprise Development Fund
YF	:	Youth Fund

Measurement Units

Length

mm = millimeter(s)
 cm = centimeter(s) (cm = 10 mm)
 m = meter(s) (m = 100 cm)
 km = kilometer(s) (km = 1,000 m)

Extent

cm² = square centimeter(s) (1.0 cm × 1.0 cm)
 m² = square meter(s) (1.0 m × 1.0 m)
 km² = square-kilometer(s) (1.0 km × 1.0 km)
 ha = hectare(s) (10,000 m²)
 Acre = 0.4047 hectare(s) (4,047 m²)

Volume

cm³ = cubic centimeter(s)
 (1.0 cm × 1.0 cm × 1.0 cm, or 1.0 ml)
 m³ = cubic meter(s)
 (1.0 m × 1.0 m × 1.0 m
 or 1.0 kl)
 L = liter (1,000 cm³)
 MCM = million cubic meter(s)

Weight

g = gram(s)
 kg = kilogram(s) (1,000 grams)
 ton(s) = metric ton(s) (1,000 kg)

Time

sec = second(s)
 min = minute(s)
 hr = hour(s)

Others

ppm = parts per million
 ° = degree
 °C = degrees Celsius
 % = percent
 mS = millisiemens

Currency

US\$ = United State dollar(s)
 JPY = Japanese yen(s)
 Ksh. = Kenyan shilling(s)

ANNEX A

***TARGET COUNTIES
AND PILOT COMMUNITIES***

FINAL REPORT

THE PROJECT FOR ENHANCING COMMUNITY RESILIENCE AGAINST DROUGHT IN NORTHERN KENYA

ANNEX A TARGET COUNTIES AND PILOT COMMUNITIES

Table of Contents

	<i>Page</i>
CHAPTER A1. GENERAL	A - 1
A1.1 International and Regional Policy against Drought	A - 1
A1.1.1 International: Hyogo Framework for Action 2005 - 2015	A - 1
A1.1.2 Regional: Africa Regional Strategy for Disaster Risk Reduction / Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006 - 2015)	A - 2
A1.1.3 A Summit on the Horn of Africa Crisis in Kenya: Ending Drought Emergencies	A - 2
A1.1.4 The Joint IGAD Ministerial and High Level Development Partners on Drought Resilience in the Horn of Africa	A - 3
A1.2 National Policy against Drought	A - 4
A1.2.1 Kenya National Disaster Management Policy (2009)	A - 4
A1.2.2 A summit on the Horn of Africa Crisis in Kenya (2011)	A - 4
A1.2.3 Drought Risk Reduction Country Strategy 2012	A - 5
A1.2.4 National Drought Management Authority (NDMA) and National Drought Contingency Fund (NDCF)	A - 5
A1.2.5 Other Important Policies Related to Drought	A - 7
A1.3 Other Donors Experiences	A - 9
A1.3.1 Arid Lands Resource Management Project (ALRMP) by World Bank	A - 9
A1.3.2 The Drought Risk Reduction Action Plan (DRRAP) by ECHO	A - 10
A1.3.3 Other On-going Projects	A - 11

CHAPTER A2. ADMINISTRATIVE ORGANIZATION STRUCTURE (COUNTY GOV AND NATIONAL GOV).....	A - 13
A2.1 General	A - 13
A2.2 Organizational Structures.....	A - 13
A2.2.1 Administrative Unit.....	A - 13
A2.2.2 Public Service Office in Marsabit and Turkana County Government.....	A - 16
A2.3 Mandate of National Drought Management Authority	A - 19
A2.4 Project Organizational Structure	A - 19
A2.5 Discussion	A - 20
CHAPTER A3. COUNTY PROFILES	A - 24
A3.1 Conditions in Marsabit County	A - 24
A3.1.1 General	A - 24
A3.1.2 Topography and Soils.....	A - 24
A3.1.3 Climate	A - 24
A3.1.4 Water Resources.....	A - 25
A3.1.5 Road Network.....	A - 26
A3.2 Condition in Turkana County.....	A - 26
A3.2.1 General	A - 26
A3.2.2 Topography and Soils.....	A - 27
A3.2.3 Climate.....	A - 27
A3.2.4 Water Resources	A - 28
A3.2.5 Road Network	A - 28
CHAPTER A4. SELECTION OF COMMUNITIES	A - 30
I Marsabit County.....	A - 30
A4.1 Selection of Areas / Communities for Natural Resource Management (Step-1) in Marsabit County.....	A - 30
A4.2 Selection of Areas / Communities for Livestock Value Chain and Livelihood Diversification (Step-2) in Marsabit County	A - 31
A4.3 Overall Selection of Pilot Communities in Marsabit County.....	A - 32
II Turkana County.....	A - 33

A4.4	General Consideration for selection of communities in Turkana County	A - 33
A4.5	Consideration for Selection Criteria of the Pilot Communities in Turkana County	A - 33
A4.5.1	Equal Distribution to the Sub-counties in Turkana County	A - 33
A4.5.2	Size of Target Community in Turkana County	A - 34
A4.6	Screening and Selection of Pilot Communities in Turkana County	A - 34
A4.6.1	First Screening in Turkana County : Accessibility	A - 34
A4.6.2	Second Screening Criteria in Turkana County	A - 35
A4.6.3	Results of Second Screening in Turkana County	A - 36
CHAPTER A5. SELECTED 20 PILOT COMMUNITIES		A - 38

List of Tables

Table AA1.2.1	Current Three Major Policies for Drought	A - 8
Table AA2.2.1	List of Wards in Marsabit County	A - 15
Table AA2.2.2	List of Wards in Turkana County	A - 16
Table AA3.1.1	Population Distribution of Each Sub-county	A - 24
Table AA3.1.2	Average Climate Data of Marsabit	A - 25
Table AA3.1.3	Number of Developed Water Points	A - 26
Table AA3.1.4	Types of Roads Infrastructure in Marsabit Sub-county	A - 26
Table AA3.2.1	Population Distribution of Each Sub-county	A - 27
Table AA3.2.2	Average Climate Data of Turkana	A - 28
Table AA3.2.3	Number of Developed Water Points	A - 28
Table AA3.2.4	Types of Roads Infrastructure in Turkana Sub-county	A - 29
Table AA4.0.1	Selection Rules and Allocation of 20 Pilot Communities)	A - 30
Table AA4.1.1	Selection of Areas/Communities for Natural Resource Management	A - 31
Table AA4.2.1	Selection of Pilot Communities for Livestock and Livelihood Diversification	A - 32
Table AA4.3.1	Selection of Pilot Communities with Expected Activities in Marsabit County	A - 33
Table AA4.4.1	Water Facilities to be Constructed in Turkana	A - 33

Table AA4.5.1	Allocation of Pilot Communities in Turkana County	A - 34
Table AA4.6.1	Selected Pilot Communities in Turkana County.....	A - 36
Table AA4.6.2	Selected Sub-locations and Grazing Area in Turkana County	A - 37
Table AA5.1.1	Rough Profiles of 20 Pilot Communities.....	A - 38
Table BA3.1.1	Summary of Data and Information (for Marsabit 1/7)	TA - 1
Table BA3.1.1	Summary of Data and Information (for Marsabit 2/7)	TA - 2
Table BA3.1.1	Summary of Data and Information (for Marsabit 3/7)	TA - 3
Table BA3.1.1	Summary of Data and Information (for Marsabit 4/7)	TA - 4
Table BA3.1.1	Summary of Data and Information (for Marsabit 5/7)	TA - 5
Table BA3.1.1	Summary of Data and Information (for Marsabit 6/7)	TA - 6
Table BA3.1.1	Summary of Data and Information (for Marsabit 7/7)	TA - 7
Table BA3.2.1	Summary of Data and Information (for Turkana 1/6)	TA - 8
Table BA3.2.1	Summary of Data and Information (for Turkana 2/6)	TA - 9
Table BA3.2.1	Summary of Data and Information (for Turkana 3/6)	TA - 10
Table BA3.2.1	Summary of Data and Information (for Turkana 4/6)	TA - 11
Table BA3.2.1	Summary of Data and Information (for Turkana 5/6)	TA - 12
Table BA3.2.1	Summary of Data and Information (for Turkana 6/6)	TA - 13
Table BA4.1.1	Evaluation of Factors Limiting Development Potential of Water Pan	TA - 14
Table BA4.6.1	Selection of Pilit Communities in Turkan	TA - 15

List of Figures

Figure AA1.2.1	EDE Framework	A - 9
Figure AA1.3.1	RPLRP Investment Decision Support Map	A - 12
Figure AA2.2.1	Decentralized Administration Structure	A - 14
Figure AA2.2.2	Centralized Administration Structure	A - 14
Figure AA2.2.3	Comparison: Centralized and De-centralized Administration.....	A - 15
Figure AA2.2.4	Organization Structure in Marsabit County Government.....	A - 17
Figure AA2.2.5	Organization Structure in Turkana County Government.....	A - 18
Figure AA2.4.1	Project Organizational Structure.....	A - 19

Figure AA2.5.1	Proposed Structure to Implement Community Action Plans in Marsabit County	A - 22
Figure AA2.5.2	Proposed Structure to Implement Community Action Plans in Turkana County	A - 23
Figure BA4.1.1	Unutilized Grazing Areas and Pastoralist Migratory Routes.....	FA - 1
Figure BA4.1.2	Rangeland and Migratory Route in Normal Years	FA - 2
Figure BA4.6.1	Traffic Accessibility of Sub-locations in Turkana County	FA - 3
Figure BA4.6.2	Grazing Area and Migratory Routes in Drought in Turkana County	FA - 4
Figure BA4.6.3	Rich Grazing Ground of Sub-locations in Turkana County	FA - 5
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (1/9 Korr).....	FA - 6
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (2/9 Arapal)	FA - 7
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (3/9 Ngurunit)	FA - 8
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (4/9 Turbi)....	FA - 9
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (5/9 Kalacha)	FA - 10
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (6/9 Hurri Hills)	FA - 11
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (7/9 Dirib Gombo)	FA - 12
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (8/9 Jirime/Dakabaricha)	FA - 13
Figure BA5.1.1	Results of Social Questionnaire Survey in Marsabit (9/9 Gar Qarsa)	FA - 14
Figure BA5.1.2	Results of Social Questionnaire Survey (1/11 Milimatatu).....	FA - 15
Figure BA5.1.2	Results of Social Questionnaire Survey (2/11 Kangakipur).....	FA - 16
Figure BA5.1.2	Results of Social Questionnaire Survey (3/11 Loritit).....	FA - 17
Figure BA5.1.2	Results of Social Questionnaire Survey (4/11 Lokichoggio)	FA - 18
Figure BA5.1.2	Results of Social Questionnaire Survey (5/11 Lokiriama)	FA - 19
Figure BA5.1.2	Results of Social Questionnaire Survey (6/11 Lorengippi)	FA - 20
Figure BA5.1.2	Results of Social Questionnaire Survey (7/11 Eliye)	FA - 21
Figure BA5.1.2	Results of Social Questionnaire Survey (8/11 Kerio).....	FA - 22

Figure BA5.1.2	Results of Social Questionnaire Survey (9/11 Lochawaangikamatak)	FA - 23
Figure BA5.1.2	Results of Social Questionnaire Survey (10/11 Lokichar)	FA - 24
Figure BA5.1.2	Results of Social Questionnaire Survey (11/11 Lopii)	FA - 25

CHAPTER A1. GENERAL

A1 General

A1.1 International and Regional Policy against Drought

Kenya is a drought prone country as recognized widely. Droughts directly impact on the household food security of people living in drought-prone areas. Droughts erode the assets of poor communities and undermine their livelihood strategies, culminating in a downward spiral of increasing poverty and food insecurity. Although drought affects the country as a whole, its effect is felt most dramatically by the livestock based economies and livelihoods in the Kenyan ASAL. In addition to the socio-economic losses, droughts hamper development speed of the countries, because they are forced to divert substantial amounts of financial and other resources for development to relief and rehabilitation assistance to disaster-affected people each year.

A1.1.1 International: Hyogo Framework for Action 2005 - 2015

The Hyogo Framework for Action (HFA) is the first plan to explain, describe and detail the work that is required from all different sectors and actors to reduce disaster losses. It was developed and agreed on with the many partners needed to reduce disaster risk - governments, international agencies, disaster experts and many others - bringing them under a common system of coordination. The HFA outlines five priorities for action, and offers guiding principles and practical means for achieving disaster resilience. Its goal is to substantially reduce disaster losses by 2015 by building the resilience of nations and communities to disasters. This means reducing loss of lives and social, economic, and environmental assets when hazards strike.

- Priority Action 1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
- Priority Action 2: Identify, assess and monitor disaster risks and enhance early warning.
- Priority Action 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
- Priority Action 4: Reduce the underlying risk factors.
- Priority Action 5: Strengthen disaster preparedness for effective response at all levels.

In this framework, the following points should be underlined in line with implementation of the Project;

- It was noted that participation of community was strongly emphasized, for the development and strengthening of institutions, mechanisms and capacities, which can systematically contribute to building resilience to hazards. It should be promoted through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of the necessary authority and resources.
- Concept of the effective integration of disaster risk considerations into sustainable development policies, planning and programming, was introduced with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.
- At times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well “prepared” and ready to act and are equipped with the knowledge and capacities for effective disaster management. Preparedness and improvement of resilience against disaster are required.

A.1.1.2 Regional: Africa Regional Strategy for Disaster Risk Reduction / Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006 - 2015)

In 2004, an Africa Regional Strategy for Disaster Risk Reduction was proposed to contribute to the attainment of sustainable development and poverty eradication by facilitating the integration of disaster risk reduction (DRR) into development.

Objectives of the strategy are:

- 1) To increase political commitment to disaster risk reduction;
- 2) To improve identification and assessment of disaster risks;
- 3) To enhance knowledge management for DRR;
- 4) To increase public awareness of DRR;
- 5) To improve governance of DRR institutions; and
- 6) To integrate DRR into emergency response management. The Strategy includes broad directions to achieve these objectives.

Based on the above strategy, the Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006 - 2010) was formulated in 2005. This programme was updated, considering HFA, in 2010.

The updated Programme of Action 2006 - 2015 shall contribute a substantial reduction of social, economic and environmental impacts of disasters on African people and economies, thereby facilitating the achievement of the Millennium Development Goals (MDGs) and other development aims in Africa.

The specific objectives of the programme are:

- To mainstream risk reduction management and climate change adaptation as an integral part of sustainable development, and related programmes.
- To strengthen long term capacities at regional and sub-regional levels to systematically contribute to building resilience to natural hazards.
- To develop and maintain sustainable mechanisms of coordination at regional and sub-regional levels to support the implementation of the Africa Strategy and the Programme of Action for Disaster Risk Reduction.
- To strengthen national mechanisms, legislative frameworks and capacities at national levels for mainstreaming and implementing disaster risk reduction strategies and programmes.
- To translate policies and strategies into practical tools for decision makers and practitioners to facilitate the implementation of the Africa Strategy, the Programme of Action and the HFA.
- To develop and mobilise resources to contribute to the implementation of programmes and projects on DRR.
- To embed a holistic approach to systematically incorporate risk reduction measures into design and implementation of disaster preparedness, response and recovery programmes.

A.1.1.3 Summit on the Horn of Africa Crisis in Kenya: Ending Drought Emergencies

A summit on the Horn of Africa Crisis was held in Nairobi, Kenya in September, 2011. The objective of summit was to expedite collaboration among countries in the Horn of Africa to have synergy effects in domestic, regions and inter-countries for programme implementation against climate change.

In this summit, the phrase “Ending Drought Emergency (EDE)” was coined to capture a new sense of purpose, which noted an important shift in policy, from one that relies on reacting to the effects of droughts as they arise, to one that actively seeks to reduce vulnerability and risk through sustainable development.

As the final product of the summit, a “Nairobi Declaration” was compiled. In the Declaration, the following points were emphasized.

- It is essential, in order to fill the resource gap, for development Partners, the African private sector and civil society to “walk” and “work” together and extend material and monetary support to the country-led long-term programmes and strategies,
- The issues of refugees are global in nature and thus require concerted efforts at local, regional and International level; and Call upon the international community to support the host community in environmental conservation and other provisions to avert resource conflict,
- The Nairobi Action Plan shall compliment and support medium and long-term efforts being undertaken by IGAD to mitigate the effects of drought in conjunction with the African Development Bank Group.

Undertake to:

- Enhance the provision of timely and actionable Early Warning information to all actors by strengthening the IGAD Climate Prediction and Applications Centre (ICPAC);
- Develop the Horn of Africa Regional Disaster Resilience and Sustainability Strategy Framework to reduce the impact of disasters in the region considering existing frameworks and programmes of action;
- Create and support a Multi-donor Trust Fund for drought and other disasters to be anchored in the IGAD Secretariat;
- Launch regional projects to address the underlying causes of vulnerability in drought-prone areas, in particular emphasis on pastoralists and agro-pastoralists to promote disaster risk reduction, ecosystem rehabilitation and sustainable livelihood practices. Such projects could include construction of cross-border infrastructure joint irrigation projects, and development of drought-tolerant crops and water harvesting technologies. We shall endeavour to allocate significant portion of national revenue to fund these projects;
- Promote ecosystem rehabilitation and management with a purpose of building natural buffers against disasters specifically identifying common targets on increasing land cover and improved water resource management; in Arid and Semi-Arid Lands. The targeted interventions should at least be 10 per cent forest cover and irrigated land in each country by 2017 as well as control over-grazing.

A1.1.4 Joint IGAD Ministerial and High Level Development Partners on Drought Resilience in the Horn of Africa

In April 2012, in order to review the progress made since the Joint Horn of Africa and East Africa Summit of Heads of State and Government held in September 2011, and to secure the commitment of the global community to build drought resilience and growth, a joint meeting was held by IGAD with high level development partners in Nairobi, Kenya.

In the meeting, the IGAD members and high level development partners mutually confirmed significant role of the Initiative to End Drought Emergencies in the Horn of Africa, and to ensure to realize the Initiative, they endorsed the IGAD Regional Platform which was agreed by the IGAD Summit of Heads of State and Government of 25 November 2011 in Addis Ababa Ethiopia.

The IGAD members and high level development partners confirmed the followings:

- The commitment of the IGAD Member States and the Development Partners to the implementation of the Horn of Africa Resilience Initiative over the long term;
- The progress being made in the formation of the IGAD Regional Platform for Drought Resilience and Sustainability;
- The establishment of a fund in support of the Platform activities, and call upon on development partners to support the establishment of the fund
- Necessity of new and proactive approaches by all stakeholders to end drought emergencies in the region;
- Establishment of a common mechanism for monitoring and evaluation of results to strengthen knowledge management mutual accountability, transparency and ownership of the process within the framework of the IGAD Platform.

A1.2 National Policy against Drought

A1.2.1 Kenya National Disaster Management Policy (2009)

In Kenya, it is regretfully pointed out that an adequate level of preparedness required to address its significant risk profile has not been achieved, in spite of several disaster management initiatives undertaken in the past two decades (*“Initiatives have been undertaken in an inconsistent, inharmonious, reactive and uncoordinated manner due to lack of a unified policy framework. National Disaster Management Policy: 2009”*). Thus the GoK has formulated the Management Policy including several key changes for emphasizing proactive and preventive strategies.

The National Disaster Management Policy includes 7 key changes. The following key changes are especially underlined in the report in line with the Project’s approaches:

- Establishing an institutional and legal framework that streamlines processes for effective and efficient disaster management in the country. This includes the establishment of national disaster management directorates under the Ministry of State for Special Programmes (MoSSP) and promoting the National Platform for DRR to be the overarching humanitarian coordination forum for Kenya to integrate qualified actors and initiatives.
- Incorporating and adjusting the conceptual thinking behind disaster management in Kenya to fully embrace the paradigm shift which has taken place over the past decade from thinking about a disaster response-centric approach to a balanced and proactive Disaster Risk Management approach. Prevention, preparedness and recovery are therefore fully embraced and the view of hazards broadened to include violence, disease and conflict among others.
- Promoting an increased national disaster awareness culture and capacity building for disaster preparedness at all levels.
- Promoting linkages between disaster risk management and development processes for reduction of vulnerability to hazards.

A1.2.2 Summit on the Horn of Africa Crisis in Kenya (2011)

A summit on the Horn of Africa Crisis was held in Nairobi, Kenya in September, 2011. In this summit, the GoK made a statement in the country programme paper. The components of a comprehensive regional strategy to deal with drought and its consequences in Kenya cover the following priority areas:

- 1) Security. Governments in the Horn of Africa and their international partners must give top priority to the establishment of peace and security. For Kenya this applies most urgently to its international borders in Upper Eastern and North Rift. Estimate: US\$350 million.
- 2) Humanitarian relief: The Kenya Emergency Humanitarian Response Plan outlines needs in areas of food, health, nutrition, water and sanitation, agriculture and livestock, protection, education, early recovery, and refugees, of which 36% is unfunded. US\$264 million.
- 3) Climate-proof infrastructure: Given the chance, most communities at risk would rather improve their livelihoods by marketing goods and livestock to national and regional markets which they cannot access at the moment due to poor infrastructure. Priority is given to roads, water and irrigation, and energy. Estimate: US\$714.2 million.
- 4) Building human capital: Arid and semi-arid lands lag behind the agricultural and urban areas in education and health which, apart from their intrinsic benefits, are keys to improving productivity and enabling livelihood diversification. These services must be provided in a manner suitable to pastoral living, and, in the case of education, will be led and coordinated by the new National Commission on Nomadic Education in Kenya (NACONEK). Estimate: US\$305 million.
- 5) Building sustainable livelihoods in a context of climate change. This involves a range of measures to increase adaptive capacity, in areas such as marketing (including market information), rangeland management, livestock, appropriate crops and fodder production, Small and Medium-sized Enterprises (SMEs), social protection, and water and environmental conservation. Estimate: US\$38.6 million.

At the end of the summit, a Nairobi Declaration was adopted which, among other commitments, undertook to enhance the provision of timely and actionable early warning information to all actors by strengthening the Inter Governmental Authority on Development (IGAD) Climate Prediction and Applications Centre. In addition, there will be launches of regional projects to address the underlying causes of vulnerability in drought-prone areas, with emphasis on pastoralists and agro-pastoralists to promote disaster risk reduction, ecosystem rehabilitation and sustainable livelihood practices.

A1.2.3 Drought Risk Reduction Country Strategy 2012

In the occasions of the meeting of the Joint IGAD Ministerial and High Level Development Partners on Drought Resilience in the Horn of Africa, held in April 2012, the Government of Kenya presented the current country drought risk reduction strategy as follows:

Kenya is transforming the management of drought and substantially reducing its impact by:

- 1) Investing in the foundations for development in drought-prone areas (National Drought Contingency Fund: NDCF),
- 2) Building a more effective institutional framework to manage drought and dryland development at national, regional and global levels (National Drought Management Authority: NDMA),
- 3) Enhancing the adaptive capacities of communities, and
- 4) Monitoring and evaluating its strategies to end drought emergencies in a comprehensive way.

A1.2.4 National Drought Management Authority (NDMA) and National Drought Contingency Fund (NDCF)

In order to institutionalize the drought management system, the Ministry of Development of Northern Kenya has prepared proposals for creation of:

1. National Drought Management Authority (NDMA) to exercise general supervision and co-ordination over all matters relating to the drought management, and

2. National Drought Contingency Fund (NDCF) with the capacity to disburse funds to drought-prone affected districts in a flexible, effective and efficient way

(1) Arid Lands Resource Management Project (ALRMP)

The Arid Lands Resource Management Project (ALRMP) was a Government led programme established in 1996 with on-going funding from the World Bank and other donors.

In 1996, the ALRMP was initiated after the World Bank-funded Emergency Drought Recovery Project (EDRP), which operated from 1992 to 1995, came to an end. While the EDRP was a quick-fix project to mitigate the effects of severe drought, ALRMP was a longer-term development-oriented project focusing on institutionalization and mainstreaming of drought management activities in the Kenya Government system. The first phase ended on June 30, 2003.

ALRMP II was launched in September 2003, with initial coverage of 22 arid and semi-arid districts, and was to be implemented over six years (2003-2009). The total program budget for phase II (2003-2010) was US\$ 142.85 million. The project had been leading drought management activities in the ASAL areas.

Key activities supported via the ALRMP include:

- Early warning data collection systems and monthly bulletins.
- Staffing of drought management offices in each district.
- The completion of twice annual short and long rain assessments (SRA/LRAs) that inform the allocation of humanitarian funding by government and other actors.
- Support to District Steering Groups (DSGs) to co-ordinate drought response, develop and implement drought management and contingency plans.

Unfortunately the ALRMP was closed down at the end of 2010 due to misappropriation of funds identified by an audit by the Bank.

(2) National Drought Management Authority (NDMA)

A new National Drought Management Authority (NDMA) was established in November, 2011. According to the Legal Notice No.171, the NDMA is treated as “the successor to the Drought Management Directorate established within the Arid Lands Resource Management Project”.

In its mandate, the NDMA shall:

- (a) establish, institutionalize and co-ordinate structures for drought management;
- (b) operate an efficient drought early warning system;
- (c) support drought-related policy formulation;
- (d) coordinate the preparation of risk reduction plans;
- (e) undertake risk reduction awareness and education; coordinate the implementation of risk reduction activities;
- (g) coordinate the preparation of contingency action plan;
- (h) develop clear evidence based criteria for both the Contingency Fund and other financial sources appropriated to deal with drought;
- (i) generate, consolidate and disseminate drought management information;
- (l) coordinate the implementation of drought mitigation and relief activities; and
- (k) perform such other functions as assigned by the National Government or as are incidental to, any or all of, 'the functions provided under, this Order.

The NDMA is expected to be a centre of drought management system to ensure that drought does not become famine and that the impacts of climate change are sufficiently mitigated by establishing, institutionalizing and coordinating structures for drought management.

(3) National Drought Contingency Fund (NDCF)

As widely recognised, one of the main problems in drought management remains the weak linkage between early warning and early response. And district drought management plans have included pre-prepared ‘shelf projects’ of activities to be triggered by the early warning system, but without proper funding these projects could not be carried out.

Thus, if there was an adequate “set-aside contingency fund”, it could ensure timely measures to mitigate the impact of drought, protecting livelihoods and saving lives. Based on such consideration, the NDCF was proposed to be established by the Ministry of Development of Northern Kenya.

a) Function

Function of NDCF is expected as follows:

- Providing contingency funds for early response in drought emergencies;
- Providing funds for recovery from drought crises

b) Structures

To maximize the functions of the fund, the organizational structure should be carefully designed. So far, the structure of the fund is considered as follows according to the Ministry of Development of Northern Kenya.

- The fund shall be managed by an independent Board of Trustees (BoT) appointed by the Minister;
- A Chief Executive Officer shall oversee the operation of the Fund
- A Fund Management Unit will be in charge for the day to day management of the NDCF

It is said that the Legal Notice for the National Drought Contingency Fund has been drafted, but not yet finalized. Prompt establishment of the fund is expected for enhancing the resilience of drought.

A1.2.5 Other Important Policies Related to Drought

(1) Three policy documents

There are three current policy documents related to drought and summarised in the table below:

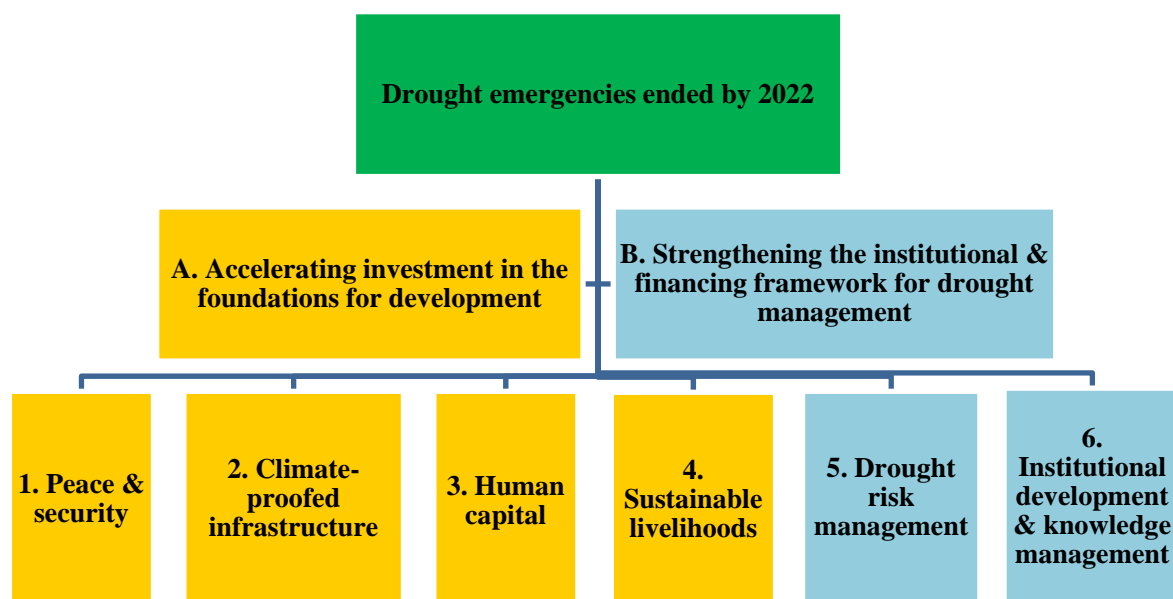
Table AA1.2.1 Current Three Major Policies for Drought

	National Policy for the Sustainable Development of Northern Kenya and other Arid Lands	Vision 2030 Strategy for Northern Kenya & other Arid Lands	Ending Drought Emergencies in Kenya: Country Programme Paper
Status	Approved by Cabinet on 13th October 2012.	Endorsed by the Ministry of State for Planning, National Development & Vision 2030 on 16 August 2011.	Approved by Cabinet on 13th October 2012.
Purpose	To re-frame, in light of the region's history, the way in which Northern Kenya and the arid and semi-arid lands are considered by Government: As a region of opportunity and potential, not just challenge. As a region where Government will think and act differently, taking its unique characteristics into account (including mobility, low population density, and pastoralism's distinct institutional arrangements). As a region which is fully part of Kenya, and therefore whose citizens are entitled to the same basic rights in development as other areas of the country.	To complement and deepen Vision 2030 by showing how its goals will be realised in the specific context of Northern Kenya and other Arid Lands, and to integrate ASAL priorities fully into the national framework for development policy and planning.	To demonstrate how Kenya will end drought emergencies within the next ten years.
What it does	<ol style="list-style-type: none"> 1. Reinforces Constitutional provisions on inequality and marginalisation. 2. Recognises the value of pastoralism and domesticates the African Union Policy Framework for Pastoralism in Africa. 3. Emphasises the region's contribution to national development, which will be achieved by accelerating investment in the foundations for poverty reduction and economic growth (such as roads, security, and human capital). 4. Opens the way to new approaches to service delivery and governance. 5. Establishes a stronger institutional framework for multi-sectoral and multi-stakeholder ASAL development. 	<ol style="list-style-type: none"> 1. Interprets the foundations and the three pillars of Vision 2030 in light of the realities prevailing in Northern Kenya and other Arid Lands. 2. Identifies priority investments appropriate to the region across all the foundations and pillars. 	<ol style="list-style-type: none"> 1. Re-frames drought management in terms of the debate on vulnerability and resilience, arguing that drought resilience will only be built by investing in the basic foundations for development (as articulated in the Vision 2030 strategy). 2. Strengthens the institutional and financing framework for drought management in Kenya, and calls for more effective international financing mechanisms. 3. Fulfils Kenya's responsibilities under the IGAD initiative to End Drought Emergencies in the Horn of Africa
Lead agency	Ministry of State for Development of Northern Kenya & other Arid Lands	Ministry of State for Development of Northern Kenya & other Arid Lands	National Drought Management Authority

Source:http://reliefweb.int/sites/reliefweb.int/files/resources/1_Policy%20documents%20of%20Northern%20Kenya%20and%20other%20ASALs.pdf, prepared by the Ministry of State for the Development of Northern Kenya and Other Arid Lands, October 2012

(2) Ending Drought Emergencies in Kenya: Country Programme Paper

Current practical policy paper which is referred to the most by the county level drought coordinators is Ending Drought Emergencies (EDE) in Kenya: Country Programme Paper. As summarised above, this policy stipulates how drought emergency can be ended by 2022. The EDE framework to achieve this is depicted in the figure below:



Source: Presentation material of NDMA for Workshop on Enhancing Drought Resilience in Northern Kenya, December 9-10, 2014, Silver Springs Hotel

Figure AA1.2.1 EDE Framework

A1.3 Other Donors Experiences

A1.3.1 Arid Lands Resource Management Project (ALRMP) by World Bank

(1) Project Outline

The Arid Lands Resource Management Project (ALRMP) was a Government led programme established in 1996 with on-going funding from the World Bank and other donors. Explanation of ALRMP was made in the previous section A1.2.4.

(2) Observations

At first, ALRMP made good impacts in Northern Kenya, in particular, at institutional development which is still effective after the project closed:

- ALRMP has had major influence on national policy and development agendas in the arid and semiarid lands. The experiences and lessons from ALRMP have informed national drought management policy and response through the creation of a National Drought Management Authority (NDMA) and Drought Contingency Fund.
- The project initiated formation of District Steering Groups (DSGs) which have been central in enhancing drought management actions, including improving drought coordination, reducing duplications, and improving response at the district (sub-county) level. After ALRAMP closed, DSG meeting continue to be held regularly in initiative of NDMA in Turkana and Marsabit.

Secondly, the project focused on development of drought preparedness and contingency plans at the district (sub-county) level, which includes assembling information on climate and vulnerability to food insecurity, training staff to create, use, and apply this information, and fostering capacity for policy-making and implementation. And the project has coordinated with other agencies, such as FEWSNET, in developing and disseminating drought management and early warning information. NDMA operate the early warning system periodically to provide effective information for preparedness of drought.

Against these institutional successes, an audit by the World Bank found evidence of serious shortcomings suggestive of misappropriation of fund. It was told the audit found that 29 percent of sampled transactions were ineligible. It is noted the extent of such human-error issues remains a major challenge to addressing persistent implementation of activities in Northern Kenya.

A1.3.2 The Drought Risk Reduction Action Plan (DRRAP) by ECHO

(1) Project Outline

The Drought Risk Reduction Action Plan (DRRAP) was funded by the European Community Humanitarian Aid and Civil Protection Department (ECHO) in Djibouti, Ethiopia, Kenya, Somaliland and Uganda from June 2006 to December 2013 for focusing on increasing resilience and reducing vulnerability to drought in local communities. DRRAP is piloting projects that mitigate and respond to drought in order to identify successful models that can be replicated, scaled up and used to influence the policy environment.

DRRAP supports practical solutions generated by communities. This promotes strong local ownership while promoting local skills. The DRRAP coordination structure was made up of UN agencies and NGOs representative, and provides support to national and regional coordination on disaster management.

(2) Observations

The following observations were made on DRRAP in terms of 3 aspects.

(a) Participatory community planning and action

At the community level, DRRAP used the Community Managed Disaster Risk Reduction (CMDRR) to stimulate grassroots solutions to common problems. This supported to empower communities to make their own decisions on the ground. Communities had developed a community action plan (CAP) and a contingency plan that are presented to the local and national government authorities for consideration in prioritizing investments. However shortcomings were observed in terms of application of CMDRR approach, such as:

- Duplication of functions between a community drought management committee (DMC) and a community development committee (CDC) in a same community,
- Sustainability of DMC after the project team left, and
- Some CAP seemed to be “wish lists”, which did not be formulated based on their capacity and current gaps

(b) Knowledge sharing

The Regional Learning and Advocacy Programme (REGLAP) was a consortium of NGOs that was coordinating advocacy and documenting good practices. REGLAP advocated for improved policy and practice among governments, NGOs and other stakeholders through the use of lessons learnt. It was a quite effective tool for sharing knowledge and experiences on various projects by various donors. This function was succeeded to Drylands Learning and Capacity Building Initiative (DLCI) after DRRAP terminated. ECoRAD Project greatly owned it to REGLAP and DLCI that we have collected useful various past experiences, outcomes, and lessons learnt for drought resilience in Northern Kenya.

(c) Natural Resource Management (NRM)

DRRAP supported natural resource management in not only ensuring preparedness to drought but also in securing peace status and harmonious utilization of resources. DRRAP partners worked with traditional institutions to ensure good management and security through regulating the use of water and grazing resources. It was considered that the methodology of using traditional entities is

very effective in Northern Kenya, then this methodology could be applied to other purpose of project activities, such as sustainable water facility management by community (using traditional system “aba elega”), etc.

(d) Animal health and production

Pastoralists and agro-pastoralists in Kenya had been trained on basic aspects of livestock health and on fodder production and preservation. Local veterinary officers received complimentary training on disease surveillance and reporting. The project trained and refreshed a number of Community Animal Health Workers (CAHWs) following standard guidelines from each country.

(e) Coordination and technical support

DRRAP provided support to partners in order to guarantee coherence in planning and implementation of the projects. This function ensured that all projects were technically sound and aligned with respective governments’ policies and plans. Partners working in this area included: FAO, UNISDR, UNDP-DDC, UNICEF, and REGLAP.

A1.3.3 Other On-going Projects

There are two major resilience related developmental projects in Marsabit and Turkana Counties.

(1) Resilience and Economic growth in Arid Lands – Improving Resilience in Kenya (REGAL-IR) by USAID

This USAID funded project covered five counties of arid and semi-arid land, namely Garissa, Isiolo, Marsabit, Turkana and Wajir. The project duration is from August 2012 to August 2017, and there are six activity goals as follows:

- Improve business capacity of individual community based enterprises:
- Support access to livestock sector inclusiveness through market linkage:
- Support community structures that improve management of their natural resources:
- Strengthen community capacity to resolve conflicts:
- Strengthen community capacity to cope with drought and other ecological shocks: and
- Improve consumption of nutritious foods.

(2) Regional Pastoral Livelihoods Resilience Project (RPLRP) by World Bank

The project objective is to enhance livelihood resilience of pastoral and agro-pastoral communities in cross-border drought prone areas of selected countries and improve the capacity of the selected countries’ governments to respond promptly and effectively to an eligible crisis or emergency. The selected countries are Kenya and Uganda in the first phase, and Ethiopia may be included in the second phase. The project utilises the cluster approach to concentrate the project’s investments and activities along livestock routes/corridors with regional significance -across border or within country boundaries. A cluster is defined here as a geographic space e.g. narrow corridor of sustainable landscape that might cut across multiple counties/districts and international borders where a range of resources is shared by pastoral communities. Overall project implementation started in 2014 and will end in 2019.

In Kenya, there are seven clusters selected including Turkana and Marsabit as shown in Figure AA1.3.1.

The project has five components, 1) NRM – Natural Resources Management, 2) MAT-Market Access and Trade, 3) LS-Livelihood Support, 4) PRM-Pastoral Risk Management, and 5) PM&IS-Project Management and Institutional Support.

(3) Kenya Rural Development Programme (KRDP) by EU

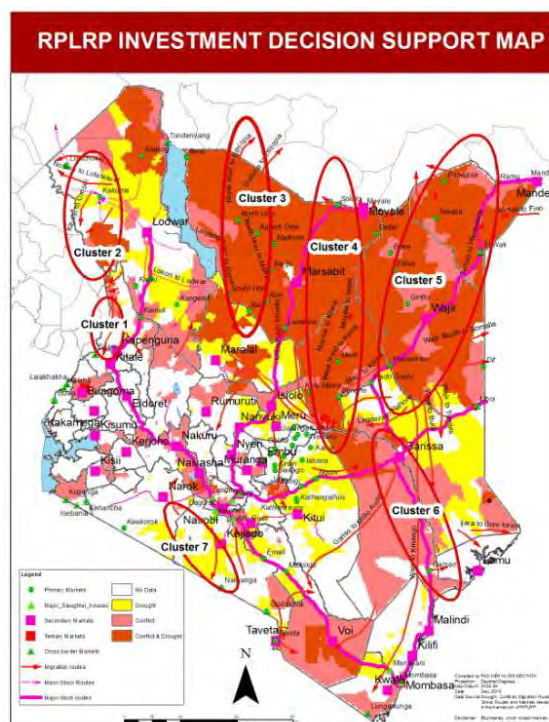
KRDP is a sector-wide programme funded by the European Union. The programme focuses on securing long-term food security in Kenya through improved agricultural productivity and better responses to drought and improved livelihoods in arid and semi-arid lands (ASALs). The following two KRDP projects are implemented under the National Drought Management Authority (NDMA):

- Kenya Rural Development programme-ASAL Drought Management (KRDP/ASAL DM)

This is a five-and-a-half year project runs from July 2011 to December 2016. The objective is to help the NDMA strengthen the drought management structures in Kenya and increase the capacity of communities in arid and semi-arid lands (ASAL) to manage drought and improve resilience.

- Kenya Rural Development programme-ASAL Drought Contingency Fund (KRDP-DCFP)

ASAL- Drought Contingency Fund is a 3-year project to facilitate timely response to drought. The total project budget is Euro 11,355,364 with EU contribution of €10,000,000 (88.4 %) and Government of Kenya contribution € 1,307,428(11.6 %). The government plans to establish a National Drought Contingency Fund (NDCF) as a way of institutionalising the use of drought contingency funds. The proposed NDCF is a multi-donor basket fund that allows contributions from both the Government and its development partners and has the capacity to disburse funds to drought-affected areas in a flexible, effective and efficient way. The DCF allocation under KRDP has been provided directly to the NDMA with the implementation of ASAL-DCFP, ahead of the formal establishment of the NDCF.



Source: Presentation material of the RPLRP project unit in Turkana

Figure AA1.3.1 RPLRP Investment Decision Support Map

CHAPTER A2. ADMINISTRATIVE ORGANIZATION STRUCTURE (COUNTY GOV AND NATIONAL GOV)

A2.1 General

The new constitution of Kenya was promulgated on August 2010. Under the previous constitution, public sectors were defined as centralized ones while under the new constitution, they are defined as comprising two levels of government: a national government and 47 county governments, which are equivalent to the districts established under the Districts and Provinces Act of 1992. This means that some government functions have been devolved to county governments from the national government. According to the new constitution, the national government has the mandate for security, foreign affairs, policy and some national infrastructures. On the other hand, county governments are responsible for following public service delivery:

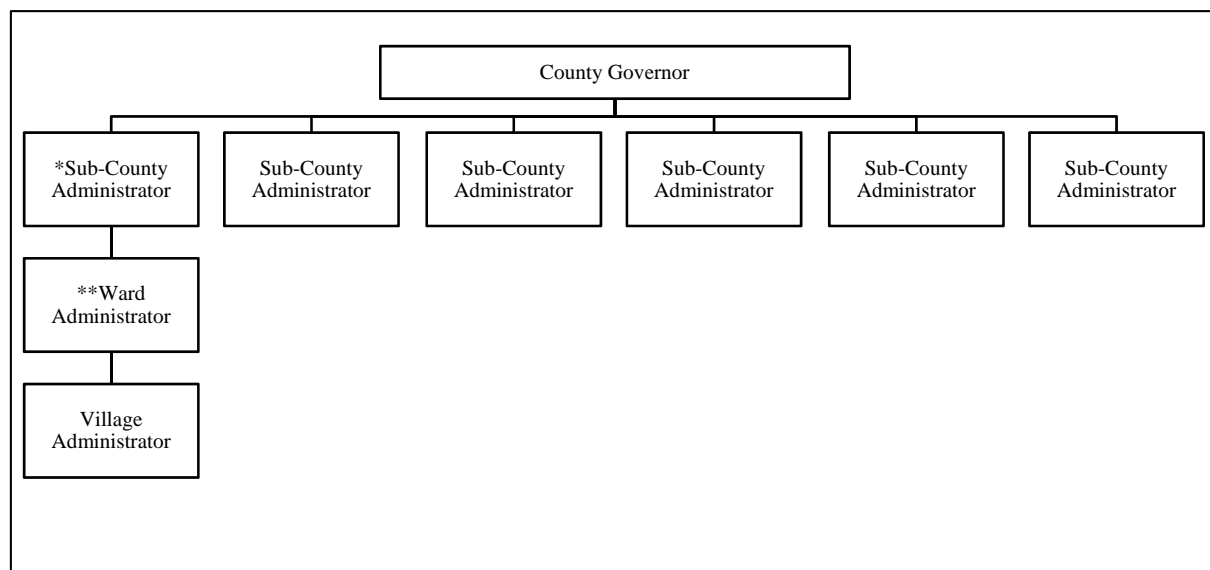
- (1) Agriculture;
- (2) Health Service;
- (3) Control of Pollution;
- (4) Cultural Activities, Public Entertainment and Amenities;
- (5) Transport;
- (6) Animal Control and Welfare;
- (7) Trade Development and Regulations;
- (8) County Planning and Development;
- (9) Pre-primary, Polytechnics, Home and Childcare Centres;
- (10) County Public Works; and
- (11) Fire Fighting Services.

A2.2 Organizational Structure

A2.2.1 Administrative Unit

The new constitution defines Sub-counties, Wards and Villages as administrative units under each county. The decentralized administration structure is as shown in Figure AA2.2.1. Sub-counties are almost equivalent to former Districts, while boundaries of Wards are newly created, each of which generally covers smaller area than former Division but larger area than Location. Village as the administrative unit of a county is different from the one under Sub-location of the former central government. Boundary of Village for county government has not been fixed yet in most counties. At each unit level, administrators are supposed to be appointed through application process. Transition to the new system of this administrative unit, however, has been still in process, and the administrative structure of the central government as shown in Figure AA2.2.2 has remained although sub-county and ward administrators have been already appointed in some counties. At community level, chief and assistant chief who were appointed in the centralized period still function in order to implement activities and resolve conflicts in their areas since Village administrators have not been appointed yet.

There are six Sub-counties and 20 Wards in Marsabit County as shown in Table AA2.2.1. All Sub-county and Ward administrators have been already appointed in Marsabit County. In Turkana County, there are seven sub-counties and 30 wards as shown in Table AA2.2.2. Out of these, all Sub-county and 27 Ward administrators have been appointed in Turkana County. Village councils and Kraal councils will be formed under charge of village administrator, which shall be decision making bodies consisting of village elders.

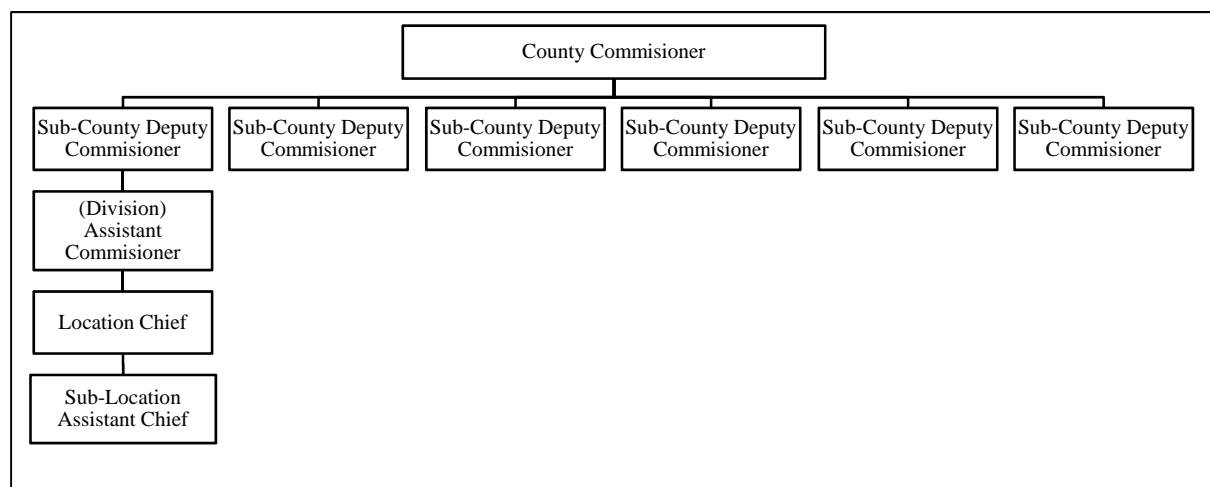


*: The size of new “Sub-County” is similar to the one of previous “District” which was further created (much smaller one compared with the one established initially following the act of 1992).

** : The size of new “Ward” ranges from previous “Division” to “Location”

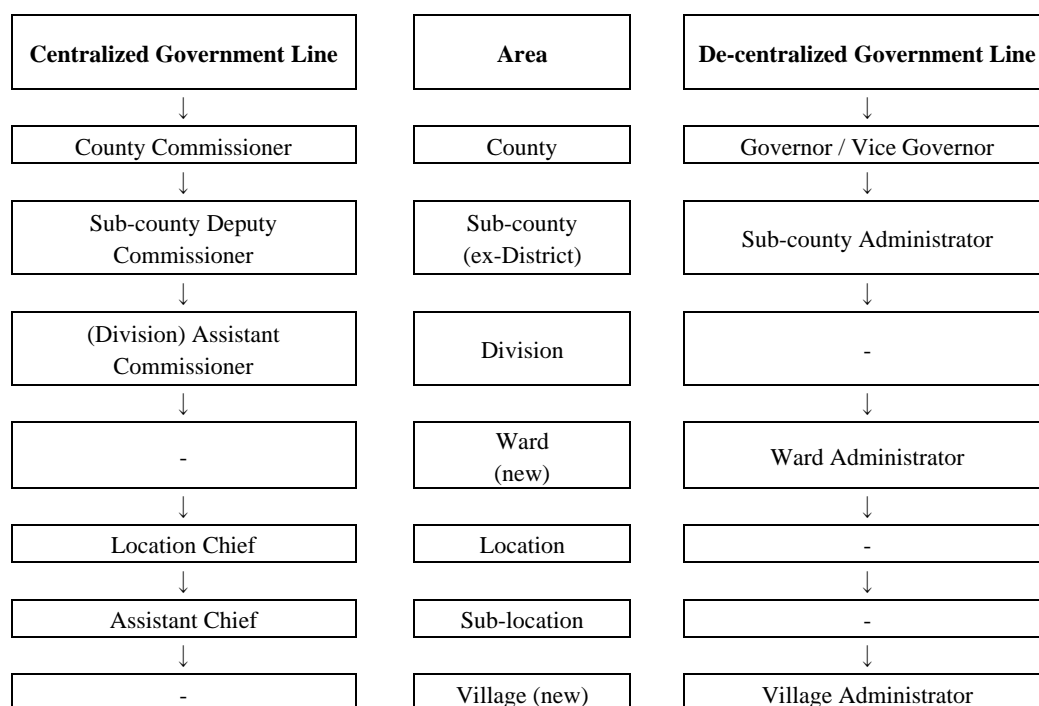
Source: Prepared by JICA Project Team based on hearing from the county governments

Figure AA2.2.1 Decentralized Administration Structure



Source: Prepared by JICA Project Team based on hearing from the county governments

Figure AA2.2.2 Centralized Administration Structure



Source: JICA Project Team based on hearing from the county governments

Figure AA2.2.3 Comparison: Centralized and De-centralized Administration

Table AA2.2.1 List of Wards in Marsabit County

No.	Constituency	Ward
1	Laisamis	Kargi / South Horr
2		Korr / Nguruneit
3		Laisamis
4		Loglogo
5		Loiyangalani
6	Moyale	Butiye
7		Golbo
8		Heilu
9		Moyale Township
10		Obbu
11		Sololo
12		Uran
13	North Horr	Dakana
14		Ileret
15		Maikona
16		North Horr
17		Turbi
18	Saku	Karare
19		Marsabit Central
20		Sagante / Jeldesa

Source: Website of Marsabit County Government (<http://marsabit.go.ke/>)

Table AA2.2.2 List of Wards in Turkana County

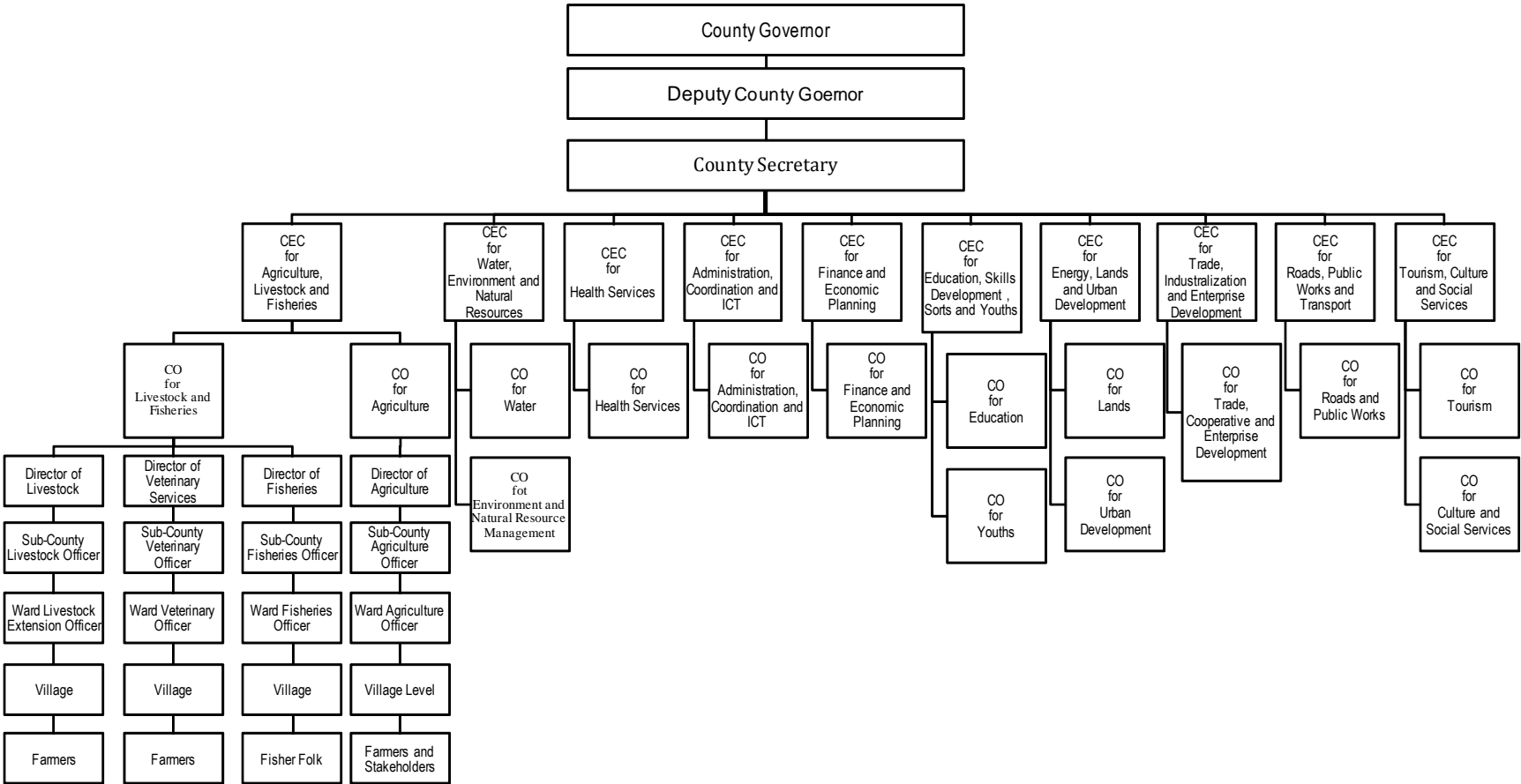
No.	Constituency	Ward			
1	Loima	Kotaruk / Lobei	19	Turkana South	Kalapata
2		Loima	20		Kaputir
3		Lokiriama / Lorengikippi	21		Katilu
4		Turkwel	22		Lobokat
5	Turkana Cental	Kalokol	23	Turkana West	Lokichar
6		Kanamkemer	24		Kakuma
7		Kangatoha	25		Kalobeyei
8		Kerio Delta	26		Letea
9		Lodwar Township	27		Lokichoggio
10	Turkana East	Kapedo / Napeitom	28	Lopur	
11		Katilia	29	Nanan	
12		Lokori / Kochodin	30	Songot	
13	Turkana North	Kaaleng / Kaikor			
14		Kaeris			
15		Kibish			
16		Lake Zone			
17		Lapur			
18		Nakalale			

Source: Turkana County Government

A2.2.2 Public Service Office in Marsabit and Turkana County Government

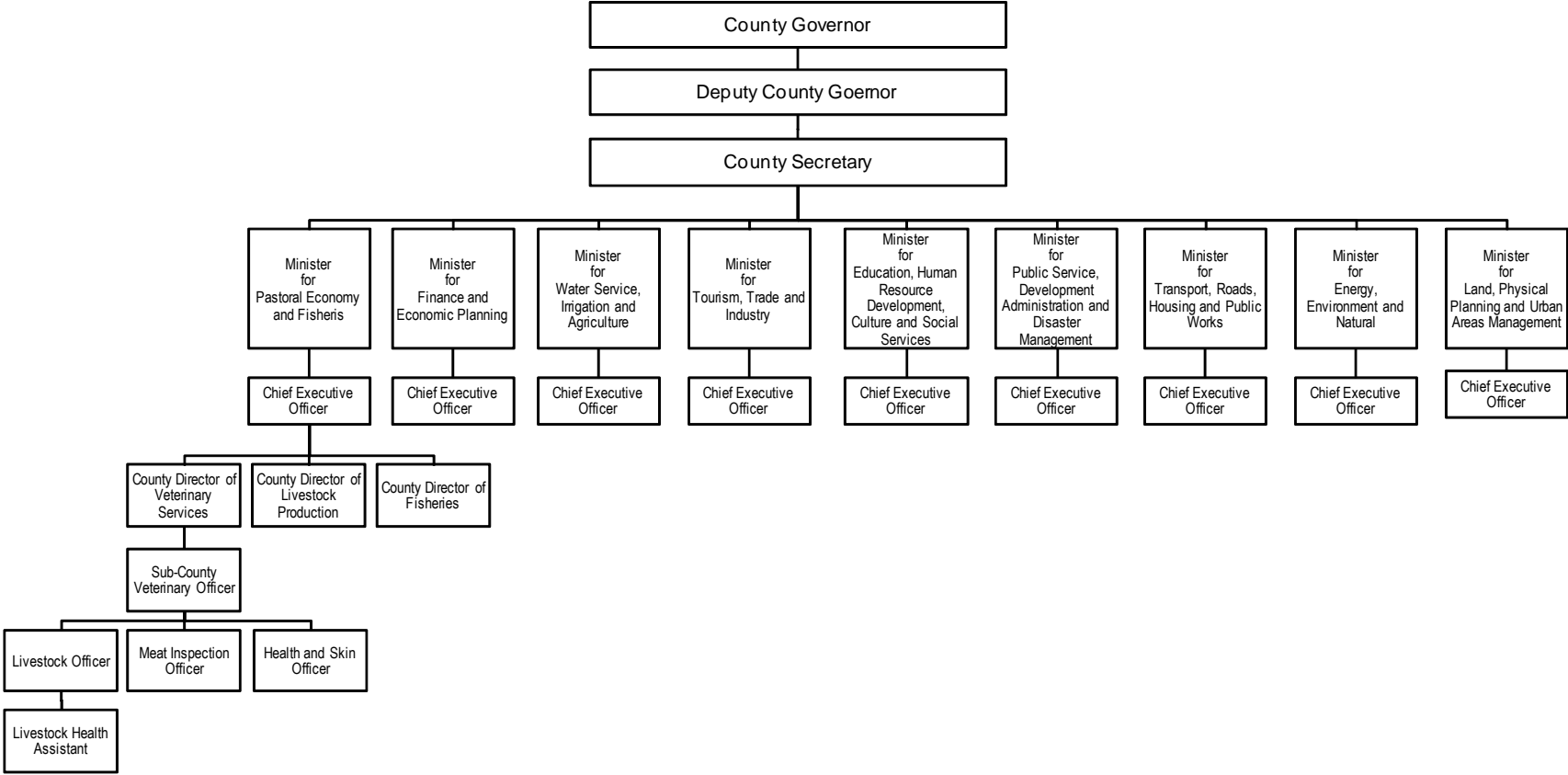
According to the constitution, each county government is comprised of a county assembly and a county executive committee. Members of a county executive committee are the county governor, the deputy county governor and the members who are equivalent to ministers appointed by the county governor. Functions of the county executive committee are to implement the county legislation, manage and coordinate the function of the county administration and so on. A county governor can decide which ministers he/she puts in within the county executive committee and how he/she forms organization structures according to the situation of his/her county.

In Marsabit County, there are 10 technical ministers and 15 chief officers under the county governor as shown in Figure AA2.2.4. On the other hand, in Turkana County, there are 9 technical ministers and 9 chief executive officers under the county governor as shown in Figure AA2.2.5. These two county governments have actually different technical ministers following the functions of county governments defined under the constitution. For example, in Marsabit County, the Ministry of Agriculture, Livestock and Fisheries is in charge of agricultural fields, while in Turkana County, the ministry which is in charge of agriculture sector is the Ministry of Water Service, Irrigation and Agriculture.



Source: Prepared by JICA Project Team based on website and hearing from Marsabit county government

Figure AA2.2.4 Organization Structure in Marsabit County Government



Source: Prepared by JICA Project Team based on hearing from Turkana county government

Figure AA2.2.5 Organization Structure in Turkana County Government

A2.3 Mandate of National Drought Management Authority

The National Drought Management Authority (NDMA) is one of the semi-autonomous government agencies under the Ministry of Devolution and Planning established by the State Cooperation Act (Cap 446) of the Laws of Kenya by Legal Notice Number 171 of November 2011. Vision and mission of the NDMA are as follows:

Vision: To be a world-class authority in drought management and climate change adoption for sustainable of livelihoods

Mission: To provide coordination and leadership of Kenya's efforts in the management of drought risks and enhancing adaption to climate change.

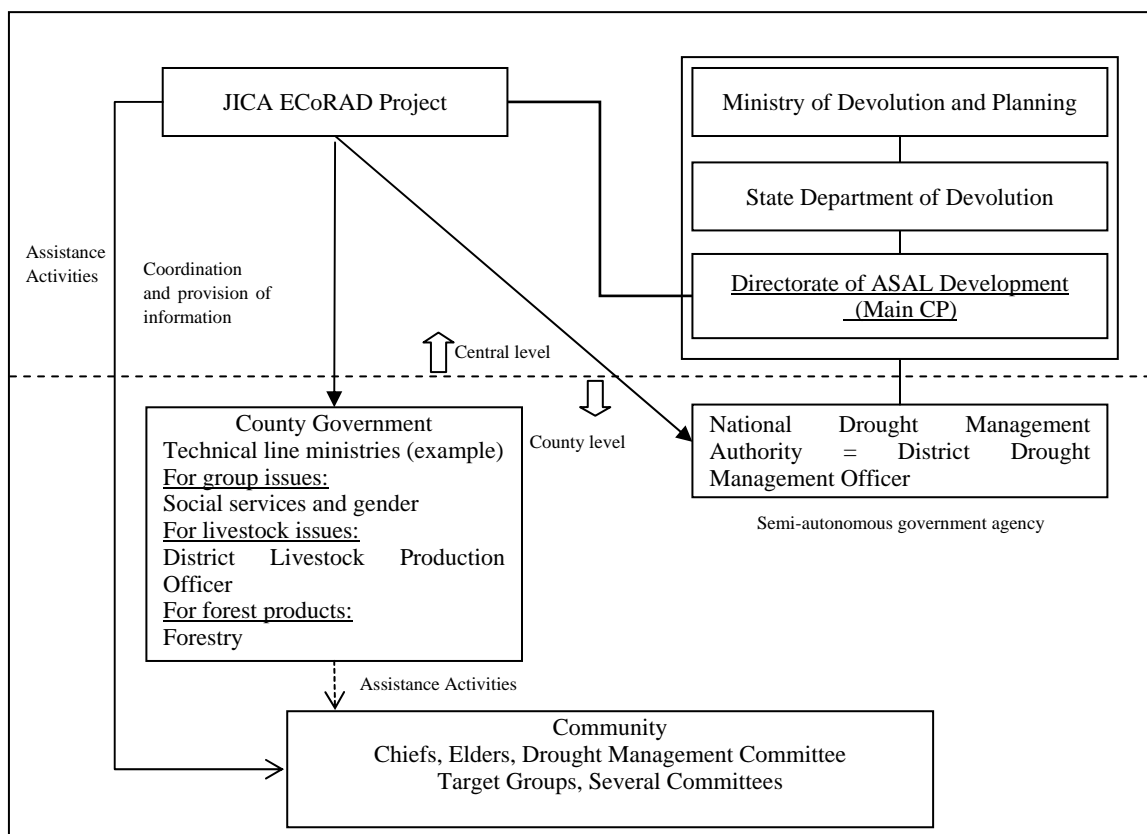
Objectives of the NDMA are to:

- (1) establish, institutionalize and co-ordinate structures for drought management;
- (2) operate an efficient drought early warning system;
- (3) support drought-related policy formulations;
- (4) coordinate the preparation of risk reduction plans;
- (5) undertake risk reduction awareness and education; coordinate the implementation of risk reduction activities;
- (6) coordinate the preparation of contingency action plan;
- (7) develop clear evidence based criteria for both the Contingency Fund and other financial sources appropriated to deal with drought;
- (8) generate, consolidate and disseminate drought management information;
- (9) coordinate implementation of drought mitigation and relief activities; and
- (10) perform such other functions as assigned by the National Government or as are incidental to, any or all of, the functions provided under, this Order.

The NDMA has 23 county offices including Marsabit and Turkana Counties, and they have issued the report on drought monitoring and early warning for their counties every month.

A2.4 Project Organizational Structure

The project organizational structure including its relation to the Government of Kenya is shown in Figure A29.4.1. Central counterpart of the Project was the Ministry of State for Development of Northern Kenya according to the record of discussion, but that was changed to the Ministry of Devolution and Planning with the decentralization. Counterpart at the county level is the county offices of the NDMA in Marsabit and Turkana Counties. The Project has implemented the project activities together with the national and county government targeting selected communities as shown in the figure.



Source: JICA Project Team

Figure AA2.4.1 Project Organizational Structure

A2.5 Discussion

The government system was dramatically changed from centralization to decentralization with the promulgation of the new constitution, and some public sectors as mentioned above have been devolved to the county government within the Project period. Up to Ward level, transition to the new administrative unit has already proceeded while at community level, Location chief and assistant chief in the centralized system are still functioning.

Under such drastic changes of the government system, it is an important issue how to embed CMDRR approach which the Project and donors have taken into the new governmental system in order to reflect Community Action Plans into the government policy implementation and realize community engagement by communities themselves for drought risk reduction in a real sense. Indeed, under the decentralization system, county governments are the right bodies to take initiatives to do although up to now NGOs and development partners have taken main role to implement it (even not by the NDMA because functions of the NDMA are only to coordinate the preparation of risk reduction plans and contingency action plans). To realize the above, one of the way is that capacity of county governments, especially the Ministry of Finance and Economic Planning in the governments, a planning unit which prepares the County Integrated Development Plan (CIDP), is strengthened in both Marsabit and Turkana Counties.

To propose how to embed, it is necessary to know the new planning procedures in the county government.

Current situation of development planning in Marsabit County

In case of Marsabit County, according to the Ward administrator in Marsabit, the five year CIDP was prepared in year 2014. The CIDP was prepared based on the bottom-up approach of planning to reflect needs of the community. In Marsabit, planning meetings were conducted at ward level in March 2014. A development plan was prepared in each Ward by a few representatives of villages with mobilization

and facilitation by the Ward administrator. These community development plans prepared at Ward level were reported to a Sub-county administrator and then the Ministry of Finance and Economic Planning to be compiled as a CIDP. Then finally, the county government budget is allocated to each technical ministry and the CIDP is implemented. For this, in every March, it is supposed to have a meeting at Ward level where a Ward administrator and community members discuss their needs (there is a chance to review their existing Community Action Plans prepared through the past CMDRR approaches in this timing).

Current situation of development planning in Turkana County

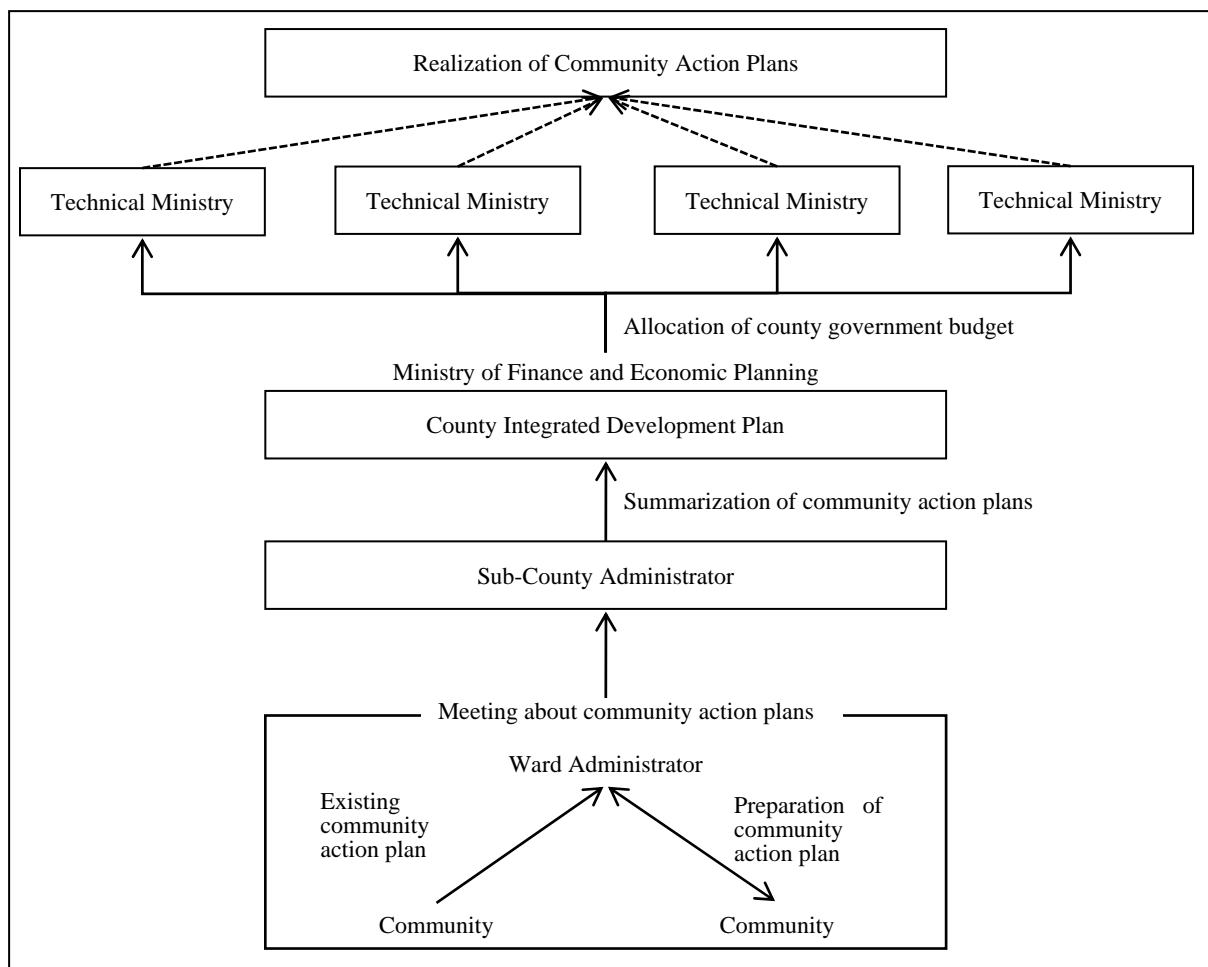
In case of Turkana County, in parallel to the NDMA, the Department of Disaster Management was established under the Ministry of Public Service, Development Administration and Disaster Management. The main role of the Department of Disaster Management is coordination of disaster related activities carried out by all the stakeholders including external agencies. It seems that the basic role of the Department of Disaster Management is fairly similar to that of the NDMA, as a coordinating body. While the NDMA has been organising County Steering Group (CSG) as a coordinating platform for disaster management with members of government and non-government stakeholders, the Department of Disaster Management has initiated a DRR Platform that consists of similar stakeholders as CSG in Turkana County. According to the Director of Disaster Management, there are lots of duplication among the NDMA and the department although each is responsible to their concerned government. As the department is still under process of establishment with most of the posts of staffs remain vacant, it is said that the functions of the department in consideration of demarcation and collaboration with the NDMA will be reassessed through its formation.

For the planning, the Ministry of Finance and Economic Planning and Public Service, the Development Administration and Disaster Management are in charge of preparation of CIDP. The CIDP is prepared through community consultation as it is in Marsabit. Ward administrators, together with Location Chiefs while Village administrators are absent as of now, mobilize the community to organise planning meetings where officers from Department of Disaster Management support to prepare community development plans in the meetings. The meetings are supposed to be conducted at administrative unit of Village that will be demarcated in coming days. The process after obtaining community development plans in the meetings is same with the Marsabit one.

Proposed Flow of Realization of Community Action Plan Embedded in the County Development Process

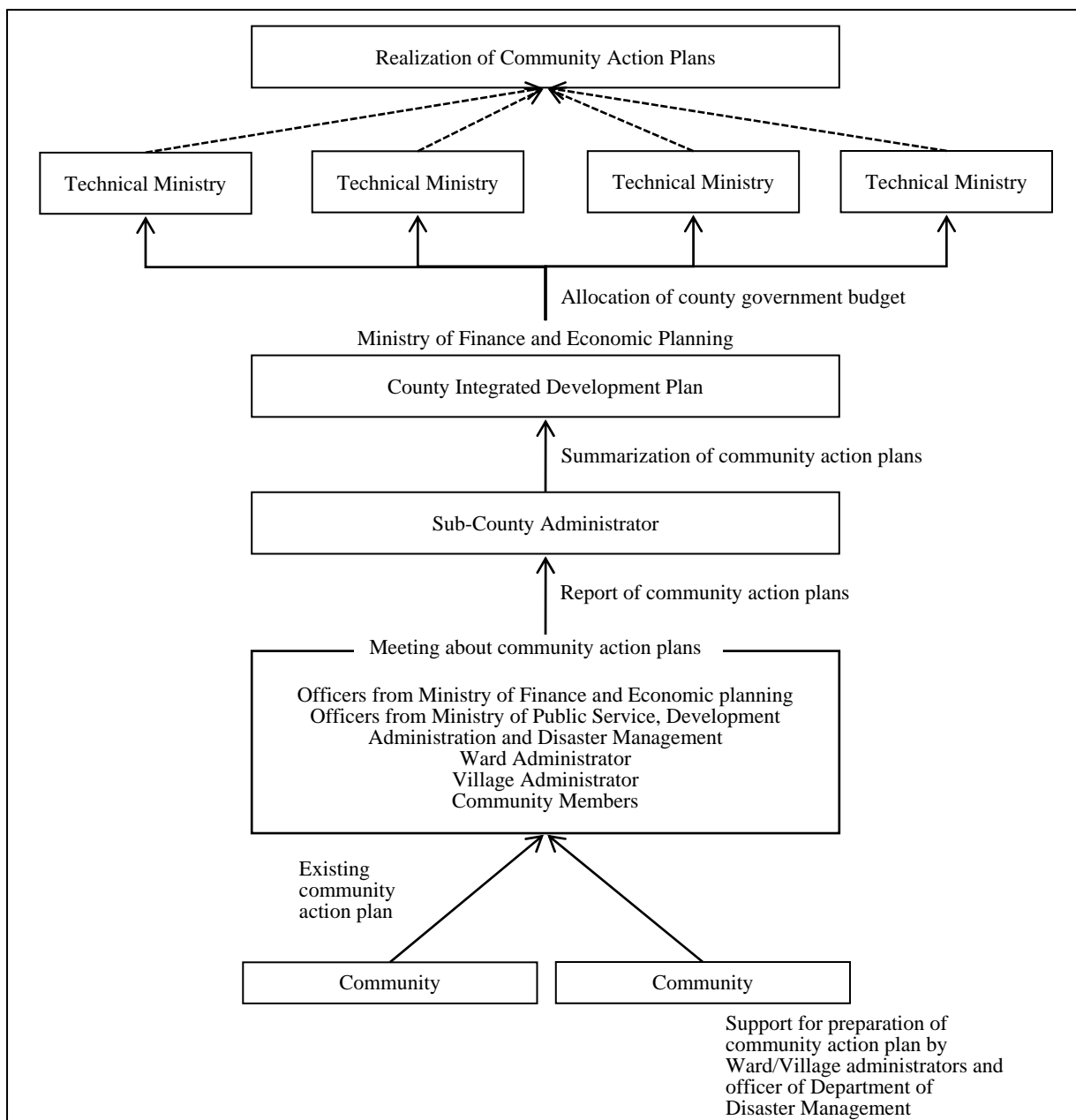
In both county planning processes, the CAPs can be used as an input when the planning meeting are to be held at community level.

Based on the above discussion, organizational flows to realize Community Action Plans in Marsabit and Turkana Counties are proposed in Figure AA2.5.1 and Figure AA2.5.2 respectively.



Source: JICA Project Team

Figure AA2.5.1 Proposed Structure to Implement Community Action Plans in Marsabit County



Source: JICA Project Team

Figure AA2.5.2 Proposed Structure to Implement Community Action Plans in Turkana County

CHAPTER A3. COUNTY PROFILES

A3.1 Conditions in Marsabit County

A3.1.1 General

It is a vast county covering approximately 12% of Kenya, with variable landscape and climate and a population estimated at 291,166 persons (Kenya Population Census, 2009). It occupies an area of about 70,961 km². The larger Marsabit County constitutes 7 sub-counties of Marsabit Central, Moyale, North Horr, Sololo, Loiyangalani, Laisamis and Chalbi.

The County is home of a number of ethnic groups the major ones being Gabra, Rendille, Boran, Samburu, Turkana, Burji, Dasanetch, Wata, etc in the ascending order of numerical intensity. Historically nearly all the ethnic groups depend on pastoralism to some extent. The Gabra and Rendille communities herd camels cattle, goats and sheep while the Boran and Samburu largely herd cattle.

The natural resources found in Marsabit County include the highland forest found in Marsabit Sub-county, and extensive pasture spreading across all sub-counties. Limited precipitation severely curtails vegetation cover for most of the driest parts of the County. Aridity therefore limits land use for most of the County leading to extensive pastoralism. Critical natural resources such as water remain the most scarce basics in the County.

Based on Kenya Population and Housing Census of 2009, the total population for the County was 260,107 persons in 2009. Moyale sub-county had the highest population of 80,550 persons while Sololo sub-county had the lowest with 13,495 persons. Following table profiles the population data for each sub-county.

Table AA3.1.1 Population Distribution of Each Sub-county

Marsabit Central	Marsabit North	North Horr	Marsabit South	Loiyangalani	Moyale	Sololo	Total
46,502	29,561	45,635	18,253	26,111	80,550	13,495	260,107

Source: Kenya Population and Housing Census 2009

In May 2012, the Project conducted a survey in each district in Turkana and Marsabit Counties to seize the district profile. Summary tables of 7 district profiles for Marsabit are shown in Table BA3.1.1. Since a district profile survey was conducted before the decentralization process, the tables show the condition based the district administration system as of May 2012.

A3.1.2 Topography and Soils

Marsabit County is made up of an extensive plain lying between A.S.L. 530 – 760 m, and occasionally interrupted by mountain ranges like the Nduto ranges (2,500 m) and Mt. Nyiru (3,010 m) in the southwest part of the County along Samburu-Marsabit sub-county border, Mt. Marsabit (1,700 m) on eastern flanks, and Mt. Kulal (2,430 m) in the North West. Other landforms are sedimentary plains, volcanic plateaus, volcanic or gneissic ranges and hills. Chalbi desert, an old saline lake bed, lying at altitude of A.S.L. 435 - 500 m is the lowest land surface in the sub-county.

Soils here are generally poor in quality save for Marsabit Mountain, Hurri Hills and parts of Sololo Sub-county that are fertile sufficiently to support crop farming. Soil characteristics vary with the diverse terrain but generally in most parts, it is typical of the soil of the arid zones: poor texture, shallow, low fertility, and low organic content.

A3.1.3 Climate

Marsabit is classified as an ASAL region with hot and dry weather conditions.

Typical of climatic conditions characteristics are limited to true desert in most of the vast county, it experiences low rainfall amounts, high temperatures combined with high potential evapo-transpiration exceeding actual annual precipitation that leads to marked moisture deficiency for most of the year. Due to variations in the terrain, rainfall also varies with elevations. For instance, lowest part receives less than 200 mm of rainfall per annum; while Mt. Marsabit gets much higher rainfall (1,700 mm) and mean annual rainfall of 800 mm. The rainfall displays both temporal and spatial variation and is bimodal in distribution. Drought as a phenomenon is common in many parts, putting severe stress on the fragile and arid ecosystem. With exception of few relatively wetter areas on the top of mountains like Mt. Marsabit and Kulal most of the area is classified as within the semi-desert or desert eco-climate zone.

Monsoon winds from the east and south east direction influence the altitudinal limits of vegetation on Mt Marsabit; high-altitude part of Mt Marsabit is in the path of the monsoon winds from the southeast. As a result, the mountain area is normally swept by a strong hot wind from the north east throughout the dry season. The importance of this wind direction is that it spreads risk of a grass fire from the northeast and eastern sides that the Mt Marsabit forest.

Table AA3.1.2 Average Climate Data of Marsabit

Marsabit Station				
Month	Mean Temperature °c		Mean Total Rainfall (mm)	Mean Number of Rain Days
	Daily min	Daily max		
Jan	15.7	25	92	6
Feb	15.9	25.7	60	3
Mar	16.2	25.7	91	7
Apr	16.7	24.9	149	9
May	16.1	24.8	54	5
Jun	14.6	24.4	14	4
Jul	13.8	23.8	17	3
Aug	13.5	24.1	8	4
Sep	14	25.1	9	2
Oct	15.4	25.2	62	6
Nov	16	23.8	91	9
Dec	15.9	24.2	46	6
			693	64

Source: World Meteorological Organization (<http://worldweather.wmo.int>)

A3.1.4 Water Resources

(1) Natural Water Sources

Marsabit has limited water resources. The Lake is saline and is of limited use for human consumption. Permanent rivers are non-existent. There are 3 crater lakes that are located within the Marsabit Mountain in Marsabit Sub-county that supports abundant wildlife in the Marsabit National Reserve. The major water sources are therefore the crater lakes on Mt. Marsabit, springs on Mt Marsabit, at foot slopes of Ndoto ranges, and margin of Chalbi desert.

The Badasa dam was planned to be constructed on east side of Marsabit town for more than 4 years. However, due to contractual argument between the employer and the contractor in terms of additional works, the construction works are suspended for a period of time.

(2) Developed Water Points

Shallow wells and boreholes are the major water source for domestic and livestock consumption in 7 sub-counties. The numbers of the developed water points in the County are summarized in the table below.

Table AA3.1.3 Number of Developed Water Points

Sub-county	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
Marsabit Central	30	5	20	1	60	1
Moyale	250	16	38	1	33	0
North Horr	10	3	3	0	3	0
Chalbi	40	12	6	3	30	0
Sololo	0	10	10	2	2	0
Laisamis	300	22	30	7	3	0
Loyangalani	20	5	6	0	5	0

Source: District Water Offices, Marsabit County (June 2012)

A3.1.5 Road Network

The road network in Marsabit County was poor when the ECoRAD project started. From Nairobi, the main road stretched through Nanyuki, and Isiolo via Marsabit to Moyale covering a distance of over 500 km in a poor condition. Roads connecting the various sub-counties in Marsabit County were also very bad and were only passable during dry seasons. The main A2 highway connecting Nairobi and Moyale via Marsabit has been improved to asphalt pavement up to Merrile, a distance over 100 kilometers from Isiolo Town.

In addition, recently road between Marsabit town to Turbi has been paved with asphalt coating; consequently greatly improving road access between those towns. The road between Merille to Marsabit town has been under construction for asphalt, bitumen standard.

Since several roads are under up-grading works, the current road status is not clear. Thus the road situation in the whole County in Table below shows the condition before starting the rehabilitation works.

Table AA3.1.4 Types of Roads Infrastructure in Marsabit Sub-county

District/Sub-county	Asphalt paved roads	All weather gravel roads	Dry season earth roads
Central Marsabit	0 km* (but under upgrading works)	407.4 km	1629.9 km*
Moyale	0 km* (but under upgrading works)	406.2 km	406.2 km*
North Horr	0 km	278.0 km	1,104.0 km
Sololo	0 km* (but under upgrading works)	200.0 km	150.0 km*
Laisamis	0 km* (but under upgrading works)	202.0 km	808.8 km*
Loyangalani	0 km	291.0 km	300.0 km

*: Length should be changed after upgrading works.

Source: Key Informant Interviews of JICA Project Team (June 2012)

A3.2 Condition in Turkana County

A3.2.1 General

Turkana County is one of the counties in the ASAL in Kenya. The County is located in north western Kenya bordering Marsabit County to the east, Samburu County to the south east, and Baringo and West Pokot Counties to the south. It has a total geographical land area of approximately 68,680 km².

According to the Kenya Population Census 2009, population in 2009 was 855,399, but Turkana County has an estimated population of about 954,133 as at 2012. About 99% of the populations are Turkana while Somali are about 1%. Distributions of the population within the County are shown on sub-county basis the table below. The County is sparsely populated with a rural area population density ranging 2 - 9 /km² and a general average county population density of 12.45 persons/km².

TableAA3.2.1 Population Distribution of Each Sub-county

Turkana Central	Loima	Turkana North & Kibish	Turkana West	Turkana South	Turkana East	Total
163,200	119,662	100,691	234,945	189,864	145,771	954,133

Source: Turkana Sub-county Development Plans 2008 – 2012

In May 2012, the Project conducted a survey in each district in Turkana and Marsabit Counties to seize the district profile. Summary tables for the 6 district (sub-county) profiles for Turkana are shown in Table BA3.2.1. Since a district profile survey was conducted before the decentralization process, those table shows the condition based on the district administration system as of May 2012.

A3.2.2 Topography and Soils

The physiographic features in the County include hills and mountain ranges such as to the Mogila to the north western parts; Lomolu and Ngimorutai hills and ranges to the western side; Loima hills to the south-western side and Lokwanamoru to the north-eastern side. The County is also characterized by extensive low lying open plains such as the Lokipiti Plain which stretches from the north before touching the Puch Prasir Plateau. The continuity of the plains is interrupted by the mentioned hills and ranges. The plains are generally arid or semiarid with dominant vegetation being dwarf shrub and grassland. However, owing to relatively higher precipitation on the mountain ranges the vegetation cover is generally green and some sections have dense woody cover.

The types of soils vary from place to place. Loamy soils dominate areas around the rivers and laggas as well as the higher and hilly woody areas. There are spreads of clayey and very clayey soils intercepting the loamy soils continuing to sandy soils in dry areas.

A3.2.3 Climate

Turkana County lies within the ASAL which are characterized by harsh climatic conditions. Rainfall is generally low and occurs during April/May and October/November. The total annual precipitation, which ranges normally 100-300 mm is unreliable and shows considerable temporal and spatial variability. Temperatures are usually high and range from a minimum of 22.1°C to a maximum of 36.4°C.

Table AA3.2.2 Average Climate Data of Turkana

Lodwar Station				
Month	Mean Temperature °c		Mean Total Rainfall (mm)	Mean Number of Rain Days
	Daily min	Daily max		
Jan	22.1	35.6	8	1
Feb	23.2	36.2	8	2
Mar	24.2	36.4	21	2
Apr	24.5	35.1	48	4
May	24.6	34.7	24	1
Jun	24.2	34.1	9	1
Jul	23.7	33.1	19	1
Aug	23.8	33.6	10	1
Sep	24.3	35.0	5	2
Oct	24.8	35.4	9	1
Nov	23.8	34.7	17	2
Dec	22.5	35.0	12	1
			190	19

Source: World Meteorological Organization (<http://worldweather.wmo.int>)

A3.2.4 Water Resources

(1) Natural Water Sources

There are two permanent rivers, Turkwel River and Kerio River that traverse the central and south-eastern parts of the County. In addition, there are numerous seasonal rivers and laggas. During the rainy season these rivers and laggas experience flood flows which are marked by heavy sediment loads and rock boulders. Flood water and rich alluvial soils extend onto the river plain that is occasionally cultivated after heavy rainstorms. When the rivers dry up, open-pit wells are dug along the riverbeds in order to get water for watering livestock and for domestic use.

(2) Developed Water Points

The types of water facilities developed in Turkana sub-counties are shown in table below.

Table AA3.2.3 Number of Developed Water Points

Sub-county	Boreholes	pans	Rock catchments	Shallow wells	Springs
Turkana central	42	6	2	45	4
Loima	36	4	-	32	3
Turkana north	82	18	-	15	5
Turkana west	13	35	3	87	3
Turkana south	36	3	-	24	3
Turkana east	25	10	-	18	2
Turkana County	234	76	5	221	20

Source: Data from Sub-county Water Offices, Turkana County (June 2012)

A3.2.5 Road Network

Turkana County has a total road network of 489.2 km of bituminous asphalt surface, 590.6 km of Gravel Surface and 2,310.5 km of Earth Surface (District Development Plans 2008 - 2012). A summary of road network is as shown in table below.

Table AA3.2.4 Types of Roads Infrastructure in Turkana Sub-county

Sub-county	Tarmac roads	All weather gravel roads	Dry season earth roads
Turkana central	102 km	156.0 km	168.0 km
Loima	68 km	104.0 km	112.0 km
Turkana North	0 km	63.9 km	659.5 km
Turkana west	163 km	33.7 km	650.0 km
Turkana south	0 km	103.0 km	290.0 km
Turkana east	156 km	130.0 km	431.0 km

Source: District Roads Offices & Turkana District Development Plans 2008-2012

Bitumen surface roads include Kitale - Lodwar - Lokichokio (A1) Road and Lodwar - Kalokol (D348) Road. Gravel roads link the sub-county headquarters and major trading centres.

The two main roads constructed to bitumen standards have sections of the carriage with worn out surface and in dire need of repairs, overhaul and reconstructions. Such weak spots act as constrictions to smooth traffic flows. Gravel and earth roads are dusty during the dry weather, a condition that inhibits better visibility and therefore reducing the effective speed and flow of traffic. During the rainy season, many sections of the roads (bitumen, gravel and earth surfaces) are washed away by flush floods (laggas), encroaching rivers leaving behind gully and collapsed pavement structures. Other sections become slippery and vehicles get stuck. On the other hand, flush floods deposit rock boulders, mudslides and debris on sections of the road network. These phenomenon impacts negatively on traffic flow resulting in cut off road communication, during severe cases.

CHAPTER A4. SELECTION OF COMMUNITIES

In the Project, 20 pilot communities were selected based on the following rules and allocation procedures showing in the following table.

Table AA4.0.1 Selection Rules and Allocation of 20 Pilot Communities

	Marsabit County	Turkana County
(1) Unit of community*	Location basis	Sub-location Basis
(2) Security condition and reachable distance	7 districts --> 4 districts (Marsabit Central, Marsabit North, Laisamis, Loyangarani)	6 sub-counties --> 6 sub-counties
(3) Equal Distribution to ethnic groups or sub-counties	Rendille area = 3 communities Gabora area = 3 communities Borana area = 3 communities	Turkana North = 2 communities Turkana West = 2 communities Turkana Central = 2 communities Loima = 2 communities Turkana South = 2 communities Turkana East = 1 communities

* Details should be referred to Section 4.2

Source: JICA Project Team

I. Marsabit County

A.4.1 Selection of Areas / Communities for Natural Resource Management (Step-1) in Marsabit County

Firstly, allocation of communities was decided. In Marsabit land was divided into 3 major ethnic group's area, such as Rendille, Bonana, and Gabra. In the Project, it was decided that each ethnic group has 3 pilot communities in order to avoid ethnic conflict and dispute.

Then, in consideration of the natural resource management, it is required to identify reliable unutilized rangelands, or not fully utilized rangeland in dry season on their migratory routes.

However pasture condition in rangeland is widely varied depending on rainfall patterns which are hard to obtain accurate actual data. Thus, in the Project, spatial satellite images and data, such as estimated rainfall data and NDVI, were utilized in its evaluation. In the result of such study, as mentioned in Annex D Natural Resource Management, the 5 recommended wet season grazing areas were identified to be relatively vigorous and rich pasture areas throughout years. (see Figure BA4.1.1 and Figure BA4.1.2).

After confirmation of availability of pasture, water pan potentials and other factors in these 5 areas were examined. Firstly, the water pan potential described in Table BA4.1.1 were verified in the selected 5 areas. Then other factors, such as location and visit-ability by the project team, are also checked. The following table shows the summary of evaluation.

TableAA4.1.1 Selection of Areas / Communities for Natural Resource Management

	Areas in Potential Evaluation	Evaluated Potential	Distance from Marsabit (km)	Limitation of project activities*	Judgment
a) Dida Galgalu (Galgalu plain) area; (Turbi community)	(1) Forole-Diribsoi -Godoma triangle	Middle	200	Near limitation, but OK	OK
b) Hurri Hills area (Hurri Hills community)	(3) Western slopes of the Hurri Hills	High	150-200	OK	OK
c) East side area of Mt. Kulal (Arapal community)	(7) Eastern slopes of Mt. Kulal highlands	High	150-200	Near limitation, but OK	OK
d) West side area of Mt. Marsabit (Korr / Ballah communities)	(2) West Middle & lower slopes of Marsabit	High	30	OK	OK
e) East side area of Mt. Marsabit (Dirib Gombo community)	(9) Eastern side of Mt. Marsabit area	Middle	20-50	OK	OK

Note: Limitation of project activities are North: Turbi, West: North Horr, South: Laisamis

Source: JICA Project Team

As shown in the table above, those 5 areas were confirmed to be the project targeted areas in line with the project approaches for the natural resource management.

A4.2 Selection of Areas/Communities for Livestock Value Chain and Livelihood Diversification (Step-2) in Marsabit County

(1) Livestock Value Chain

In livestock value chain portion, the Project tried to stimulate and vitalize the existing local primary livestock market. Thus target community/townwold have good potential for collecting a certain number of livestock and for becoming a centre of livestock trading market in that area. Hopefully those target communities had an existing organization for livestock marketing.

Based on the collected information for livestock marketing, the following candidate communities were listed up and evaluated as candidates.

Table A4.2.1 Selection of Pilot Communities for Livestock and Livelihood Diversification

Community	Size of town	Existing periodical livestock market activity	Number of livestock around area	Access by car	Selection of target community	Remarks
1) Rendille area						
Kargi	Middle	<u>No / Not active</u>	High	Middle		
Korr	<u>Big</u>	<u>No / Not active</u>	High	Middle	X	Should include Ballah community
Loglogo	Middle	<u>No / Not active</u>	Middle	Good		
Ilaut (Arapal)	Small	<u>Active</u>	High	Middle	X	
2) Gabora area						
North Horr	<u>Big</u>	<u>No / Not active</u>	High	Bad / Far		
Turbi	Middle	<u>No / Not active</u>	High	Good	X	
Kalacha	Middle	<u>No / Not active</u>	High	Good	X	
Maikona	Middle	<u>No / Not active</u>	Middle	Bad / Far		
3) Borana area						
Moyale	<u>Big</u>	Active	High	No*		Too far.
Sololo	Middle	Active	Middle	No*		Too far.
Dirib Gombo	Middle	<u>No / Not active</u>	Middle	Good	X	

Source: JICA Project Team

Note: Project car cannot go because it locates beyond the project activity boundary (Turbi).

(2) Livelihood Diversification

There is high possibility and potential for any community in terms of pilot projects of livelihood diversification. Thus the Project set up the following focal points for selecting pilot projects and communities.

- This is “pilot project”. Thus newly introduced challenging activities or value additional activities should be selected as project interventions. The Project shall combine such value additional interventions and the interventions for duplication of previous successful activities adequately.
- Selection of communities should be made taking into consideration of well-balanced distribution, especially avoiding tribal biases.
- To diversify type of activities and to seek possibility of life style of agro-pastoralist by ex-pastoralist in Marsabit area, high water available areas shall be included, such as Kalacha (village with good spring), Dirib Gombo (high rainfall area around mountain), Arapal (village with water from mountain spring).

Based on the following consideration, pilot communities are selected in the next section.

A4.3 Overall Selection of Pilot Communities in Marsabit County

Based on the above mentioned aspects, with consultation with several officers and NGOs, the pilot communities were selected as showing in the following table.

Table A4.3.1 Selection of Pilot Communities with Expected Activities in Marsabit County

Community	Natural Resource Management	Livestock Value Chain	Livelihood Diversification
<u>1) Marsabit South</u>			
Korr	X	X	X
Arapal	X	X	X
Ngurnit	(X)*		X
<u>2) Marsabit North</u>			
Turbi	X		X
Kalacha		X	X
Hurri Hills	X	(X)	X
<u>3) Marsabit Central</u>			
Dirib Gombo	X	X	X
Dakabaricha / Jirime	(X)	X	X
Gar-Qarsa	(X)		X

Note: X: High possibility. The Project has blue prints of those activities.

(X): Medium Possibility. If any good interventions are identified during CMDRR, those will be implemented.

Source: JICA Study Team

Activities in the above table are just for project's expectation, and final decisions should be made based on the community action plan developed through Community Managed Disaster Risk Deduction (CMDRR) consultation meetings.

II. Turkana County

A4.4 General Consideration for selection of communities in Turkana County

In the Project, 11 pilot communities were selected. In the 11 pilot communities, several pilot sub-projects were to be planned and implemented in the 3 target sectors, such as (i) natural resource management, (ii) livestock value chain, and (iii) livelihood diversification. In terms of sub-projects for natural resource management sector, the following facilities would be constructed in the 11 pilot communities.

Table AA4.4.1 Water Facilities to be Constructed in Turkana

	Quantity
Number of pilot communities	11 communities
Hand-pump well, or sub-surface dam with hand-pump	20 facilities
Water pan and rock catchment facilities	10 facilities

Source: JICA Project Team

A4.5 Consideration for Selection Criteria of the Pilot Communities in Turkana County

A4.5.1 Equal Distribution to the Sub-counties in Turkana County

Turkana County consisted of 6 sub-counties, as of September 2013 when pilot communities were selected, such as Turkana North, Turkana West, Turkana Central, Loima, Turkana East, and Turkana South. Generally speaking, sub-counties in Turkana County which are located in the national border area have more rainfall and rich vegetation. Thus if 11 pilot communities were selected simply based

on its rangeland potential, availability of surface/ground water, and other natural factors for water facilities, 11 pilot communities were located in only a few sub-counties which had enough rangeland and rainfall potential. However such concentration of pilot communities was not preferable for the Project in consideration of purpose of pilot projects in which various experiences are expected to be obtained and to be collected through implementation of project activities. In order to collect various types of pilot project's experiences, pilot projects were located in not only high-potential areas but also in water scarce, and harsh environmental areas. Thus the Project decided to distribute pilot communities equitably within the 6 sub-counties. And finally the following allocation was set up. Due to security reasons, Turkana East sub-county had 1 pilot community in the Project.

Table AA4.5.1 Allocation of Pilot Communities in Turkana County

Sub-county	Allocated pilot communities
Turkana North	2
Turkana West	2
Turkana Central	2
Loima	2
Turkana South	2
Turkana East	1

Source: JICA Project Team

A4.5.2 Size of Target Community in Turkana County

To implement pilot projects, at first, the Project selected 11 pilot communities in which CMDRR workshop training were undertaken.

Since there were several sizes of communities in Northern Kenya societies, such as kindred/relative level community, clan level community, sub-location level community, location level community, region level community, etc., the Project selected sub-location as the size of target community in the Project based on the following reasons:

- Sub-location is a minimum official administrative unit in which there is a sub-chief. Since the Project is official development programme, it is preferable that a target community have an official administrative officer in order to implement the government-to-government basis project.
- Sub-location covers certain area in which there are several resources, such as rangeland, water sources, mobile pastoralists, and semi-pastoralists for natural resource management activities.
- Sub-location has adequate number of small communities for implementing small size of livelihood diversification programmes.

A4.6 Screening and Selection of Pilot Communities in Turkana County

A4.6.1 First Screening in Turkana County : Accessibility

The Project set "traffic accessibility" as 1st screening criterion based on the experiences of the activities in Marsabit County in previous year with following consideration:

Activities in remote area must:

- reduce actual daily activity hours at field. Since the Project team is allowed to have activities from 6:00am to 6:00pm on site, increase of travel time automatically restricts field activities;
- increase risks of bandit attacks, traffic accidents, and vehicle mechanical troubles;
- make it difficult for project staff to communicate with project office or supervisor with a view to reporting current problems and getting instructions.
- make it difficult to take quick action in case of serious accidents or disasters.

Figure BA4.6.1 shows a map with traffic accessibility from main or lateral roads to each sub-location. Sub-locations with filling dark colour indicate to be “low accessibility”, and those were screened out of pilot communities in the Project. With this criterion, 68 communities out of 159 sub-locations were selected as 1st candidate of pilot communities. Apart from the 1st criteria, several sub-locations in northern part of Turkana North sub-county and southern part of Turkana East sub-county were eliminated from candidates of the pilot communities.

The 68 candidate communities are shown in Table BA4.6.1.

A4.6.2 Second Screening Criteria in Turkana County

As 2nd screening criteria, the following 6 items were set.

(1) High Potential Site of Hand-pump wells

The project plans to construct new 20 wells with hand-pumps in Turkana County. The Project estimated an average pumping depth of wells at 50m approximately, because typical pumping up depth of hand-pump-well is generally up to 50m..

Figure BE1.7.1 in Annex E shows UNESCO’s ground water potential map in which groundwater development potential up to 80m is indicated as areas with yellow colour at 90% dependability. In the Project, the hydro-geologist examined and selected 29 candidate sites of hand-pump-wells based on the UNESCO potential map and results of his own site reconnaissance, including EC and PH meter results, local demands in interviews, information of existing adjacent wells, and geological configuration.

(2) Potential of Sub-surface Dam

Sub-surface dam was one of the Project’s target facilities for natural resource management sector. Thus the hydro-geologist in the Project examined potentials of subsurface dam and selected 8 candidate sites for sub-surface dam along Tarach River’s tributaries. Since mainstream of Tarach River is too wide, such as 50-100m, to construct a sub-surface dam as a pilot sub-project, alternative sites were selected at its tributaries.

(3) Rangeland and Livestock Migratory Routes

The Project collected information of rangeland, and evaluated major rangeland potential to be developed or utilised more through site reconnaissance as well as livestock migratory routes of pastoralists. All the information collected are summarized in Figure BA4.6.2. Based on this figure, the Project evaluated sub-location’s potential of rangeland if sub-location has rich rangeland within a range of 10-20km radius or not.

The sub-locations with rich rangeland near its place are summarized and shown in Figure BA4.6.3.

(4) Rainfall

Rainfall is one of important criteria in natural resource management in terms of storage potential of water at water pans and rock catchment facilities. In livelihood diversification projects, especially in projects targeting plants cultivation, rainfall will strongly affect the project success. Thus the Project selected rainfall as screening criteria and areas with high precipitation were defined as high development potential areas in the Project.

Since annual rainfall in Turkana is approximately 100-300mm in average, there are some areas with more rainfall. According to the result of study, the county was divided into 3 rainfall areas for screening the pilot communities in the Project, such as areas less than 200mm, areas with 200-400mm, and areas more than 400mm. And pilot communities were evaluated based on those 3 categories.

(5) Development Potential Aspect for Livestock Market Value Chain Improvement

The Project planned to develop or improve livestock market facilities in pilot communities as pilot sub-projects for livestock market value chain improvement. After site investigation by the Project experts, 5 high potential communities, such as Lokichoggio, Lodwar, Lokichar, Nakurio and Kerio, were selected for developing livestock market in consideration of its location, present market facilities, potential for supplying livestock, and, potential for trader's accessibility.

(6) Development Potential Aspect for Livelihood Diversification

When the Project selected pilot sub-project for livelihood diversification, it was needless to say that those sub-projects should be formulated based on requests from communities. However taking the consideration of objectives of pilot project, innovative approach or new methodology was also required in the pilot projects which would be hardly obtained through community based approach.

Thus the Project tried to formulate ideas of anticipated pilot sub-projects by themselves in view of material production potential, community competence, and accessibility potential to markets. Finally the Project formulated initiatives of proposed pilot sub-projects, such as a precious stones sub-project in Milimatatu and fluoride purification with bone char sub-project in Kerio. Those 2 communities were given high score in this criterion.

In CMDRR workshop training, these ideas were proposed by the Project and discussed among community members, in addition to community's requests for sub-projects in community action plans. And then final pilot sub-projects were selected by communities.

A4.6.3 Results of Second Screening in Turkana County

Based on the above mentioned 2nd screening criteria, 68 communities were evaluated. Results of the evaluation are summarized in Table BA4.6.1 and selected 11 communities are shown in the following table.

Table AA4.6.1 Selected Pilot Communities in Turkana County

Sub-county		Sub-locations:	Location	Division
North	1	MILIMATATU	YAPAKUNO	KALENG
	2	KANGAKIPUR	KAERIS	KALENG
West	3	LORITIT	LETEA	OROPOI
	4	LOKICHOGGIO	LOKICHOGGIO	LOKICHOGGIO
Loima	5	LOKIRIAMA	LOKIRIAMA	LOIMA
	6	LORENGIPPI	LORENGKIPPI	LOIMA
Central	7	ELIYE	KANGATOTHA	KALOKOL
	8	KERIO	KERIO	KERIO
South	9	LOCHWAANGIKAMATAK	LOCHWAANGIKAMATAK	LOKICHAR
	10	LOKICHAR	LOKICHAR	LOKICHAR
East	11	LOPII	KOCHODIN	LOKORI

Source: JICA Project Team

For your references, grazing land conditions around 11 selected communities are summarized in the following table.

Table AA4.6.2 Selected Sub-locations and Grazing Area in Turkana County

District	Location	Sub-location	Territorial section	Wet season grazing area	Dry season browser grazing area	Dry season cattle grazing area	Reserve area in case of drought
North	Yapakuno	Milimatatu	Ngiyapakuno	Southeastern Lotikipi Plains	Along some minor rivers, Lower footslopes of the Moru-arith hills	Lorienetom, Moru-arith, Songot, Pelekech, Loima range	Uganda
	Kaeris	Kangakipur	Ngiyapakuno	— ditto —			— ditto —
West	Letea	Loito	Ngiwoyakwara	Upper Tarach, Mountainous area	Upper Tarach, Mountainous area	Upper Tarach, Mountainous area	Uganda
	Lokichoggio	Lokichoggio	Ngikwatela	Lotikipi Plains, Kotome Valley	Footslopes of mountains	Mogila, Songot, Lokwanamoru mountains	Uganda, South Sudan
Central	Kangatoha	Eliye	Ngiboceros	Whole area (Camel and Shorts), Along the Lake(Cattle)	Along the Turkwell river	Lopurr range, Loima range	None
	Kerio	Kerio	Ngiesetou	Along the Kerio and Kalapata river	Along the Kerio, Kalapata river and Lake	Loriu Plateau	None
Loima	Lokiriama	Lokiriama	Ngikamatak	Plains, especially the low elevation plains between	Along rivers, Footslopes of mountains	Loima range, Uganda escapement	Uganda
	Lorengkippi	Lorengkippi	Ngikamatak	Lorugumu and Lorengippi	— ditto —	— ditto —	— ditto —
South	Lochwa-ngikamatak	Lochwa-ngikamatak	Ngikamatak/Ngisonyoka	Plains	— ditto —	— ditto —	— ditto —
	Lokichar	Lokichar	Ngisonyoka	Northeastern lava hills and plains	Kitigisigiria, Kamorok, Kailongkol, Lateruk, Loritet Hills	Kitigisigiria, Kamorok, Kailongkol, Lateruk, Loritet Hills, Loriu Plateau	Southern mountains, Naro plains
East	Kochodin	Lopii	Ngisonyoka	— ditto —			— ditto —
Source: Refer to Range Management Handbook of Kenya, Vol. II.9, Turkana district, 1994, MALDM, Republic of Kenya							

CHAPTER A5. SELECTED 20 PILOT COMMUNITIES

The selected 20 communities were the following.

Marsabit County		
<u>Rendille area (Marsabit South)</u>	<u>Gabra area (Marsabit North)</u>	<u>Borana (Marsabit Central)</u>
1. Ngurunit, at Ngurnit Location	4. Turbi, at Turbi Location	7. Dirib Gombo, Dirib Location
2. Korr, at Korr Location	5. Kalacha, at Kalacha Location	8. Dakabaricha/Jirime Jirime Locations
3. Arapal, at Arapal Location	6. Hurri Hills, Hurri Hills Location	9. Gar Qarsa, Gar Qarsa Location

Turkana County		
<u>Turnaka North</u>	<u>Loima</u>	<u>Turnaka South</u> 9.
1. Milimatatu at Milimatatu sub-location	5. Lokiriama, at Lokiriama sub-location	Lochawaangikamatak at Lochwa'tak sub-location
2. Kangakipur at Kangakipur sub-location	6. Lorengippi at Lorengippi sub-location	10. Lokichar at Lokichar sub-location
<u>Turnaka West</u>	<u>Turnaka Central</u>	<u>Turnaka East</u>
3. Loritit at Loritit sub-location	7. Eliye at Eliye sub-location	11. Lopii at Lopii sub-location
4. Lokichoggio at Lokichoggio sub-location	8. Kerio at Kerio sub-location	

Since characteristics of those 20 communities cannot be simply described, the Project tried to identify roughly in the following 4 topics.

Table AA5.1.1 Rough Profiles of 20 Pilot Communities

	Road Access	Geographical Circumstance	Camel / Cattle	Ethnic Group Characteristics
<u>Marsabit</u>				
Korr	Fair	Lowland	Camel	Rendille
Arapal	Poor	Mountain	Camel /cattle	Rendille/Samburu
Ngurnit	Fair	Near mountain	Camel	Rendille
Turbi	Very good	Lowland	Camel	Gabra
Kalacha	Poor	Lowland	Camel	Gabra/Borana
Hurri Hills	Poor	Mountain	Camel /cattle	Gabra
Dirib Gombo	Good	Near mountain	Cattle	Borana
Dakabaricha / Jirime	Very good	Mountain	Cattle	Borana
Gar-Qarsa	Good	Near mountain	Cattle	Borana
<u>Turkana</u>				
Milimatatu	Poor	Lowland	Camel	Turkana
Kangakipur	Poor	Lowland	Camel	Turkana
Loritit	Poor	Lowland	Cattle	Turkana
Lokichoggio	Good	Near Mountain	Cattle/ camel	Turkana
Lokiriama	Poor	Mountain	Cattle/ camel	Turkana
Lorengippi	Poor	Mountain	Cattle / camel	Turkana
Eliye	Fair	Near the lake	Camel	Turkana
Kerio	Good	Lowland	Camel	Turkana
Lochawaangikamatak	Very Good	Lowland	Camel	Turkana
Lokichar	Very good	Lowland	Camel	Turkana
Lopii	Poor	Lowland	Camel	Turkana

Source: JICA Project Team

When the above 4 items, such as road access, geographical circumstance, preferred large animal, and ethnic group, are seized, some characteristics of the following points could be imaged roughly.

- Road access:
If road access is good, generally speaking accesses to several social services, such as access to water facility, health care service, veterinary service, food relief service, and so on, could be in better conditions,
- Geographical Circumstance:
In mountainous area, there is high possibility better rainfall condition. And it is also expected to be in good access to water facilities, such as boreholes, shallow wells in lagas, water pan etc.. Then semi-agriculture could be possible. Agriculture activity make less mobility of migratory activity. In the lowland circumstance the opposite conditions could be anticipated.
- Preferred large animals (camel or cattle):
Camel keepers can have high mobility of herds in dry season. On the other hand cattle keepers have less mobility and tend to be in a semi-settlement condition. If semi-settlement is developed, relation and cohesion among community is accelerated on a geographical basis. Details should be referred to Part-II in the Guideline.
- Ethnic group:
There are several significant characteristics in each ethnic group in terms of communal collective action, leadership and decision making. Details should be referred to Annex C and Part-II in the Guideline.

Detail information and data of selected 20 pilot communities are given in Figure BA5.1.1-BA5.1.2 in Marsabit and Turkana counties for figuring out the outlines of those pilot communities.

Tables

Table BA3.1.1 Summary of Data and Information (for Marsabit 1/7)

Summary of Marsabit Central Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	20,265.7	46502	Borana (40 %)	Gabra (30%)	Rendile (15%)	Burji (5%) Samburu (10%)
Physical Infrastructure	Types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	Mob.Tele. companies	Emergency food stores	
	0 (km)	291 (km)	300 (km)	1	0	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	20	5	6	0	5	
Education Services	Number of teachers and various education facilities					
	Sec.Sch teacher	Primary Sch. teachers	PolytechTeachers	Second. Schools	Primary sch	Polytechnics
	8	65	0	1	14	0
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctor	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	-	4	14	-	1	-
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Vet. doctors	Animal health assistant	CAHW	Veterinary clinics	Agro-vet shops	
	0	0	0	0	4	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Lvestock exten. Ass	Livestock Devel. Centres		
	1	1	0	0		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Bee hives
	15,000	20,000	245,000	190,000	9,500	200
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock yards	Stock holding grounds	Local marketing comp	Marketing associations	Slaughter houses	Butcheries
	3	1	0	4	3	2
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
	Fishing	Lodging	Bars	Restaurants	Whole/Retail shop	Hardware shop
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	CBOs	Drought/Environ. Man. Comm	WUAs	Women Groups
	5	0	0	3	3	5
GoK Activities	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst. marketing	Human health	Education	Irrigation
	0	1	0	1	0	0
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	MFI	Sav& credit co-op	M-pesa outlets	Other
	0	1	0	0	0	0

Source: Household Surveys, KI Interviews, Secondary Sources Marsabit Central district (June 2012)

Table BA3.1.1 Summary of Data and Information (for Marsabit 2/7)

Summary of Moyale Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	11,730.5	66,431	Turkana (73%)	Samburu (25%)	Rendile (5%)	El-Molo (2%)
Physical Infrastructure	Types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob.Tele. companies	No. of emergency food stores	
	0 (km)	291 (km)	300 (km)	1	0	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	20	5	6	0	5	
Education Services	Number of teachers and various education facilities					
	SecSch. Teacher	Pri.Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	8	65	0	1	14	0
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	-	4	14	-	1	-
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	0	0	0	0	4	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Livestock exten. Assistants	Livestock Devel. Centres		
	1	1	0	0		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Bee hives
	15,000	20,000	245,000	190,000	9,500	200
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	3	1	0	4	3	2
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
	Fishing	Lodging	Bars	Restaurants	Whole/ Retail shops	Hardware shops
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
	5	0	0	3	3	5
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst. marketing	Human health	Education	Irrigation
	0	1	0	1	0	0
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	0	1	0	0	0	0

Source: Household Surveys, Marsabit County, Moyale district (June 2012)

Table BA3.1.1 Summary of Data and Information (for Marsabit 3/7)

Summary of North Horr Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	18,561	38,350	Gabra (70%)	Borana (20%)	Turkana (5%)	Dasanach, Somali (5%)
Physical Infrastructure	Types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob.Tele. companies	Eemergency food stores	
	0 (km)	278 (km)	1,104 (km)	1	2	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	10	3	3	0	3	0
Education Services	Number of teachers and various education facilities					
	Secondary Sch. Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	10	104	0	2	16	0
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics/ Dispensaries
	0	1	11	0	3	2
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	1	3	0	1	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Lvestock exten. Assistants	Livestock Devel. Centres		
	1	1	1	0		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	(indeg Chicken)
	15000	30000	260000	200000	9000	1500
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	2	0	0	2	0	5
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
	Retail shops	Lodges	Electrical shops	Clothes shop		
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man Committees	Water Users Associations	Women Groups
	4	0	0	4	3	45
On-going Activities by GoK & NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst. marketing	Human health	Education	Other sector
	1	6	0	0	0	0
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Savings & credit co-operatives	M-pesa outlets	Other
	0	0	0	0	0	0

Source: HH Survey June 2012 & Marsabit County North Horr District Development Report

Table BA3.1.1 Summary of Data and Information (for Marsabit 4/7)

Summary of Marsabit North Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	19,687	36,846	Gabra - 90%	Wata - 5%	Borana – 5%	%
Physical Infrastructure	Types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob. Tele. companies	No. of emergency food stores	
	0 (km)	115 (km)	1009 (km)	3	0	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	40	12	6	3	30	0
Education Services	Number of teachers and various education facilities					
	Secondary Sch. Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	18	105	4	2	16	1
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	1	2	13	0	0	8
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	2	3	0	2	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock extension. officers	Livestock extension. Assistants	Livestock Development. Centres		
	1	2	2	1		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Bee hives
	10,000	20,000	140,000	100,000	6,000	beehives 10
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	5	0	0	8	0	10
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
	Retail shop	Lodges	Restaurants	Kiosks	Rental houses	
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
	6	1	0	7	6	106
On-going Acti by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livestock mark	Human health	Education	Irrigation
	1	2	0	0	0	0
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other

Source: HH Survey June 2012, Chalbi District Development Report

Table BA3.1.1 Summary of Data and Information (for Marsabit 5/7)

Summary of Sololo Sub-county Profile						
1.0 Sololo district profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	6,024.1	35,292	Borana -70%	Burji - 20%	Gabra 10-%	Ajuran %
Physical Infrastructure	Types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob.Tele. companies	No. of emergency food stores	
	0 (km)	200 (km)	150 (km)	1	0	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	0	10	10	2	2	0
Education Services	Number of teachers and various education facilities					
	Secondary Sch.teacher	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	21	138	6	3	23	1
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	1	5	12	0	0	1
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	0	1	33	0	2	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Lvestock exten. Assistants	Livestock Devel. Centres		
	0	1	0	0		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Poultry
	23,450	15,600	236,495	203,550	10,800	4,500
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	1	0	0	1	1	6
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
	Lodges	Transport	Small shops	Health services	Restaurants/ eating places	Clothing
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
	5	0	0	12	4	450
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst.marketing	Human health	Education	other sector
	1	0		0	0	Agric- 3; Irrig – 3, roads 2,
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	0	0	0	0	0	0

Source: HH Survey June 2012, Sololo District Development Report

Table BA3.1.1 Summary of Data and Information (for Marsabit 6/7)

Summary of Marsabit South Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	8,560	28,035	Rendile 70%	Samburu 29%	Somali 1%	%
Physical Infrastructure	Types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No.Mob.Tele. companies	No. of emergency food stores	
	0 (km)	202 (km)	808.8 (km)	1	1	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	300	22	30	7	3	0
Education Services	Number of teachers and various education facilities					
	Secondary Sch. Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	10	123	0	2	24	0
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	1	1	12	1	3	9
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	3	0	0	2	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Lvestock exten. Assistants	Livestock Devel. Centres		
	0	3	3			
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	others
	50,000	37,000	175,000	166,000	10,000	
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcherries
	2	0	0	3	5	20
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
	Retail shops	M-Pesa kiosks	Restaurants	Tailoring shops	Hardware shops	Beading
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community drought/Env. Man. Committees	Water Users Associations	Women Groups
	2	0	0	3	2	101
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst.marketing	Human health	Education	Irrigation
	22	5	1	0	0	1
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	0	0	0	0	2	0

Source: HH Survey June 2012, Laisamis District Development Report

Table BA3.1.1 Summary of Data and Information (for Marsabit 7/7)

Summary of Loiyangalani Sub-county District						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	11,730.5	28,036	Turkana (73%)	Samburu (25%)	Rendile (5%)	El-Molo (2%)
Physical Infrastructure	Types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob.Tele. companies	No. of emergency food stores	
	0 (km)	291 (km)	300 (km)	1	0	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	20	5	6	0	5	
Education Services	Number of teachers and various education facilities					
	Secondary Sch. Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	8	65	0	1	14	0
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centers	Clinics
	-	4	14	-	1	-
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	0	0	0	0	4	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Livestock exten. Assistants	Livestock Devel. Centres		
	1	1	0	0		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Bee hives
	15,000	20,000	245,000	190,000	9,500	200
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	3	1	0	4	3	2
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
	Fishing	Lodging	Bars	Restaurants	Whole/ Retail shops	Hardware shops
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst.marketing	Human health	Education	Irrigation
	0	1	0	1	0	0
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	0	1	0	0	0	0

Source: HH Survey June 2012 & Marsabit County Loiyangalani District Development Report

Table BA3.2.1 Summary of Data and Information (for Turkana 1/6)

Summary of Turkana Central Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	5,675.9	163,200	Turkana 96%	Somali 4%	%	%
Physical Infrastructure	Incidence of various types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Cell/Tel companies	Emergency food stores	
	102 (km)	156 (km)	168 (km)	3	1	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	45	42	6	2	-	4
Education Services	Number of teachers and various education facilities					
	Secondary Sch.	Primary Sch teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	67	414	-	8	67	-
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	4	16	60	1	3	13
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	2	7	-	1	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock extend. officers	Livestock extend. Assistants	Livestock Level Centres	Animal Health Officers	
	-	4	1	-	3	
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Poultry
	78,597	60,280	224,269	509,376	36,027	12,472
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	7	-	-	7	6 (slab)	30
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	CBO Drought/Environ Committees	Water Users Associations	Women Groups
	5	5	7	-	7	47
Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livestock. marketing	Human health	Education	Roads
	14	7	5	8	17	3
Financial Institutions	Number of financial institutions and intermediaries					
	Banks	Bank Agencies	Micro-finance	SACCOs	M-Pesa outlets	Other
	3	6	1	1	-	

Source: HH Survey June 2012 & Turkana District Development Report

Table BA3.2.1 Summary of Data and Information (for Turkana 2/6)

Summary of Loima Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	8,914.8	119,932	Turkana 99%	Somali 1%	%	%
Physical Infrastructure	Incidence of various types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob.Tele. companies	No. of emergency food stores	
	68 (km)	104 (km)	112 (km)	3	1	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	32	36	4	-	-	3
Education Services	Number of teachers and various education facilities					
	Secondary Sch. Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	18	143	-	4	39	-
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	-	4	14	-	1	-
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	3	11	-	-	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Livestock exten. Assistants	Livestock Devel. Centres		
	1	1	1	-		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Poultry
	117,896	90,420	336,403	764,067	54,041	18,707
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	5	-	-	5	1 (slab)	31
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
	-	8	2	-	8	2
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst.marketing	Human health	Education	Irrigation
	9	7	6	6	15	1
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	3 (Lodwar)	1	-	-	-	

Source: KI Interviews, HH Survey June 2012 and Turkana District Development Plans 2008 – 2012

Table BA3.2.1 Summary of Data and Information (for Turkana 3/6)

Summary of Turkana West Turkana West Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	17,060.2	234,935	Turkana 99%	Somali (< 1%)	Rendile (< 1%)	%
Physical Infrastructure	Incidence of various types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob.Tele. companies	No. of emergency food stores	
	163.2 (km)	33.7 (km)	650 (km)	3	1	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	87	13	35	3	-	3
Education Services	Number of teachers and various education facilities					
	Secondary School Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	34	200	-	6	36	-
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	8	16	52	2	1	8
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	2	15	-	-	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Livestock exten. Assistants	Livestock Devel. Centres		
	1	1	1	-		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Poultry
	313,098	120,209	611,550	899,941	93,328	13,112
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	6	-	1	7	1	
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committee	Water Users Associations	Women Groups
	-	7	3	-	7	4
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst.marketing	Human health	Education	Roads
	12	8	3	7	16	13
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	1	4	-	-	-	

Source: KI Interviews, HH Survey June 2012 and Turkana District Development Plans 2008 – 2012

Table BA3.2.1 Summary of Data and Information (for Turkana 4/6)

Summary of Turkana North Turkana West Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	17,940.1	100,691	Turkana 99%	Somali (< 1%)	Rendille (< 1%)	%
Physical Infrastructure	Incidence of various types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Cell/Tel. companies	No. of emergency food stores	
	0 (km)	63.9 (km)	659.5 (km)	3	1	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	15	82	18	-	-	5
Education Services	Number of teachers and various education facilities					
	Sec. Schools.	Primary Sch.	Polytechnic	Second. schools	Primary schools	Polytechnics
	14	82	-	2	16	-
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
	-	4	20	1	2	-
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	2	3	40	-	-	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock Exten. officers	Livestock Exten. Assistants	Livestock Devel. Centres		
	-	2	2	(to confirm)		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Poultry
	339,190	139,976	162,512	974,827	101,106	14,205
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local companies	Marketing associations	Slaughter houses	Butcheries
	4	-	-	4	5 (slab)	29
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
	1	5	4	-	3	17
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livestock marketing	Human health	Education	Roads
	10	7	3	7	17	10
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Saving & credit co-op	M-pesa outlets	Other
	(3 in Lodwar)	1	-	-	-	

Source: HH Survey June 2012 & Turkana District Development Report

Table BA3.2.1 Summary of Data and Information (for Turkana 5/6)

Summary of Turkana South Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	7,358.3	189,864	Turkana 99%	Somali (< 1%)	%	%
Physical Infrastructure	Incidence of various types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Cell/Tele. companies	No. of emergency food stores	
	156 (km)	103 (km)	290 (km)	3	1	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	24	36	3	-	-	3
Education Services	Number of teachers and various education facilities					
	Secondary Sch. Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	24	166	-	3	27	-
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
				1	3	-
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	2	26	-	-	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock Exten. officers	Livestock Exten. Assistants	Livestock Devept. Centres	Animal Health Officers	
	-	2	2	(to confirm)	1	
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Poultry
	377,208	165,031	925,328	1,565,711	131,370	59,313
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	5	-	-	5	5 (slab)	18
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
	2	3	3	-	4	18
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst. marketing	Human health	Education	Roads
	15	8	10	15	21	4
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	1	3	-	-	-	

Source: HH Survey June 2012 & Turkana District Development Report

Table BA3.2.1 Summary of Data and Information (for Turkana 6/6)

Summary of Turkana East Sub-county Profile						
General	District geogr. Area (km ²)	Population	Ethnic 1	Ethnic 2	Ethnic 3	Others
	11,263.2	145,771	Turkana 99%	Somali (< 1%)	%	%
Physical Infrastructure	Incidence of various types of physical infrastructure					
	Tarmac roads	All weather gravel roads	Dry season earth roads	No. of Mob.Tele. companies	No. of emergency food store	
	0 (km)	130 (km)	431 (km)	3	1	
Developed Water Facilities	Number of developed water points					
	Shallow wells	Boreholes	Pans	Rock-catchments	Buried tanks	Springs
	18	25	10	-	-	2
Education Services	Number of teachers and various education facilities					
	Secondary Sch. Teachers	Primary Sch. teachers	Polytechnic Teachers	Second. schools	Primary schools	Polytechnics
	18	128	-	3	21	-
Human Health Services	Number of personnel and facilities providing support to human health					
	Medical doctors	Clinical officers	Nurses	Hospitals	Health centres	Clinics
				1 (Sub-district)	2	-
Animal Health Services	Number of personnel and facilities providing support to animal health					
	Veterinary doctors	Animal health assistants	Comm. Animal Health Workers	Veterinary clinics	Agro-vet shops	
	1	1	26	-	-	
Animal Production Services	Number of personnel and facilities providing support to livestock production					
	Range officers	Livestock exten. officers	Livestock exten. Assistants	Livestock Level. Centres		
	1	1	1	-		
Livestock Assets	Estimated number of various types of livestock					
	Cattle	Camels	Sheep	Goats	Donkeys	Poultry
	308,624	247,546	757,087	1,281,037	142,316	54,753
Livestock Marketing Facilities	Number of livestock marketing facilities					
	Livestock selling yards	Stock holding grounds	Local marketing companies	Marketing associations	Slaughter houses	Butcheries
	3	-	-	1	-	3
Non-Pastoral Activities	Number of sites with non-pastoral activities					
	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6
Mutual Help Organizations	Number of mutual help organizations					
	Pastoral associations	Pastoral Field School	Comm. Dev. Committees	Community Drought/Environ. Man. Committees	Water Users Associations	Women Groups
	3	4	1	-	6	-
On-going Activities by GoK and NGOs	Number of on-going and planned projects in various sectors					
	Water	Livestock	Livst. marketing	Human health	Education	Roads
	14	8	10	10	18	2
Financial Institutions	Number of financial intermediaries					
	Banks	Bank Agencies	Micro-finance institutions	Sav. & credit co-op	M-pesa outlets	Other
	1 (Lodwar)	1	-	-	-	

Source: JICA Project Team based on key informants interviews, household survey and Turkana District Development Report

Table BA4.1.1 Evaluation of Factors Limiting Development Potential of Water Pan

Area ^{*1}		Assessment Rating	Factor							Suitability Rating (no.) ^{*3}				Evaluation ^{*4} by potential
			Slope	Soil type	Soil depth	Runoff ^{*2}	Evaporation	Frosion hazard	Catchment land use	Good	Fair	Poor	Point	
1	Forole-Diribsoi -Godoma triangle	Assessment Rating	< 8% G	C,SC,SL,SCL G	ve D>6m,oc S<1m G	50mm G	>2200mm P	m-hs-S&G P	Range P	4	0	3	8	Middle
2	Middle & lower slopes of Marsabit	Assessment Rating	5-16% F	C,CL,cr-C G	D-ve D 3-o 6m G	80mm G	<2200mm F	s-S,h-G F	FR,arable F	3	4	0	10	High
3	Western slopes of the Hurri Hills	Assessment Rating	gen.< 5% G	fg-SCL F	m D 1-3m F	40mm G	<2200mm F	l-S,m-G F	uu-Range G	3	4	0	10	High
4	Eastern slopes of the Hurri Hills	Assessment Rating	< 5% G	cr-C P	D 3-6m G	40mm G	<2200mm F	s-S,h-G P	uu-Grazing G	4	1	2	9	High
5	East Turkana Basin lowlands	Assessment Rating	<10%,-16% G	vgC/CL,SL,S P	S-mD ovD <1->6m F	25mm P	>2600mm P	l-m-S,h-G P	Range P	1	1	5	3	Low
6	Hedad plain, Karole and Kaisut deserts	Assessment Rating	flat, < 1% G	LS,SCL,SL,S v-ge P	va S - D, <1m - 6m F	35mm F	>2600mm P	st-S P	Range P	1	2	4	4	Low
7	Eastern slopes of Mt. Kulal highlands	Assessment Rating	<10% G	G	(F o) G	40mm G	>2200mm P	F	G	5	1	1	11	High
8	Foothills of southern border	Assessment Rating	<10% G	F	F	40mm G	>2200mm P	F	F	2	4	1	8	Middle
9	Eastern side of Mt.Marsabit area	Assessment Rating	<2% G	F	P (or F)	25mm P	>2600mm P	G	G	3	1	3	7	Middle
10	Rest of the Study area	Assessment Rating	gen.< 2% G	CL,C,lt-cr-C ge P	ve D - D, oc S G	20mm P	>2600mm P	l-S,l-G F	Range P	2	1	4	5	Low
Abbreviation			G: Good F: Fair P: Poor gen.: generally	C: Clay L: Loam S: Sand cr: cracking	D: Deep S: Shallow ov: over, ve: very m: moderately oc: occasionaly va: variously			S: Sheet erosion G: Gully erosion	Range: Rangeland uu: under-utilized					Good: 2 Fair: 1 Poor: 0 Low: - 5 Middle: 6 - 8 High: 9 -
Note:														
*1: Areas 1 to 6 are derived from original report.														
*2: Runoff is estimated at 10% of MAR (Mean Annual Rainfall).														
*3: Suitability Rating by No. and point is done by the JICA Project Team.														
*4: Evaluation is done by the JICA Project Team.														

Source: JICA Project Team

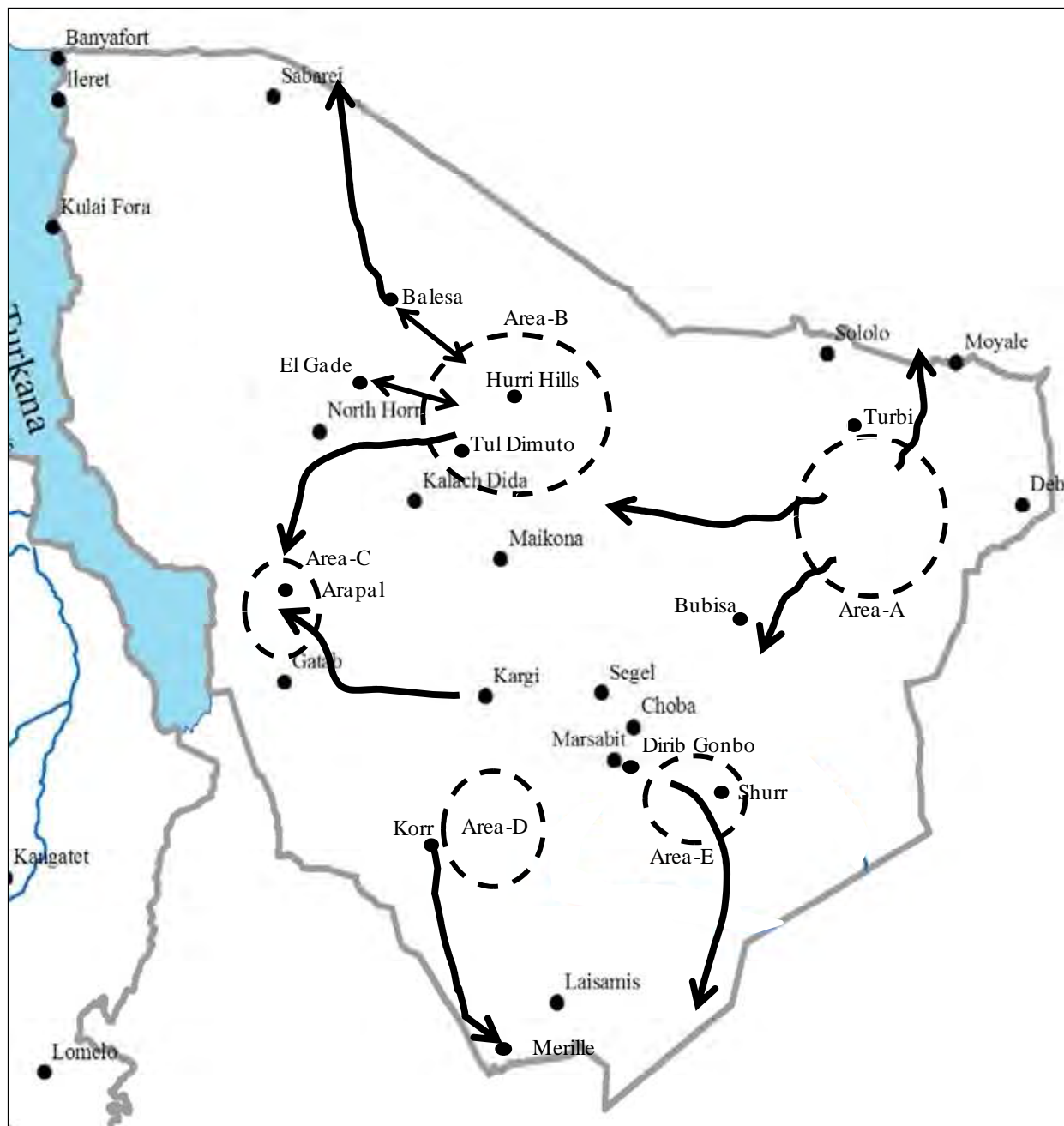
Table BA4.6.1 Selection of Pilot Communities in Turkana
Selection of Pilot Communities in Turkana

District	Sub-location	Score	Wells	Subsurface dam	Rangeland	Livestock route	Rainfall *	Livestock	diversification
North	Kanakurudio	0							
	Kaeris	2			1	1			
	⊙ Kangakipur	2			1	1			
	Kalem	1				1			
	⊙ Milimatatu	3			1	1			1
	Lokolio	1				1			
	Kataboi	0							
	Katiko	0							
	Lomekui	0							
Kokiselei	0								
West	Nanaam	2				1	1		
	Mogilla	3			1	1	1		
	Lopiding	3			1	1	1		
	⊙ Lokichoggio	5	1		1	1	1	1	
	Lokariwon	3			1	1	1		
	Songot/Songot	4	1		1	1	1		
	Songot/Kalobeyei	3			1	1	1		
	Oropoi	4	1		1	1	1		
	Natiira	0							
	Kalobeyei	2	1	1					
	Lonyuduk	0							
	⊙ Loritit	4	1	1	1		1		
	Loreng	3	1	1			1		
	Namon	0							
	Lopusiki	0							
	Lokore	0							
	Lopur	0							
	Morungole	1	1						
	Nadapoi(kakuma)	2	1	1					
Losanvanait	0								
Nakalale	0								
Kabwin	1					1			
Loima	Lomevan	1				1			
	Nachuro	1				1			
	Kawalathe	0							
	Nadapal	0							
	Tiya	1				1			
	Turkwel	2	1			1			
	Lorugum	2	1			1			
	⊙ Lorangkippi	4	1		1	1	1		
	⊙ Lokiriama	4	1		1	1	1		
	Kaemanik	3			1	1	1		
	Lochorekuven	2			1	1	1		
	Namoruputh	2	1			1			
	Lochoredome	2			1	1			
	Nakurio	2				1	1		
	Napeikar	2	1			1			
Kalemv=nyang	1				1				
Central	Kalokol	0							
	Namukuse	0							
	Lomoopus	1				1			
	⊙ Elive	1							1
	Lodwar Town	3	1			1		1	
	Napetet	2	1			1			
	Kangagetei	1				1			
	Lorenglup	1	1						
	Nadoto	0							
	Nakurio	1						1	
	⊙ Kerio	3	1			1		1	
	Nakoret	1			1				
Kangirisae	0								
South	Napusmoru	0							
	⊙ Lochwangamatak	2	1			1			
	⊙ Lokichar	3	1			1		1	
	Kapese	0							
Loperot	1				1				
East	Kochodin	1			1				
	⊙ Lopii	2			1	1			

*) Rainfall : area of average annual rainfall 400-600mm (Water Pan/Rock catchment)

Source: JICA Project Team

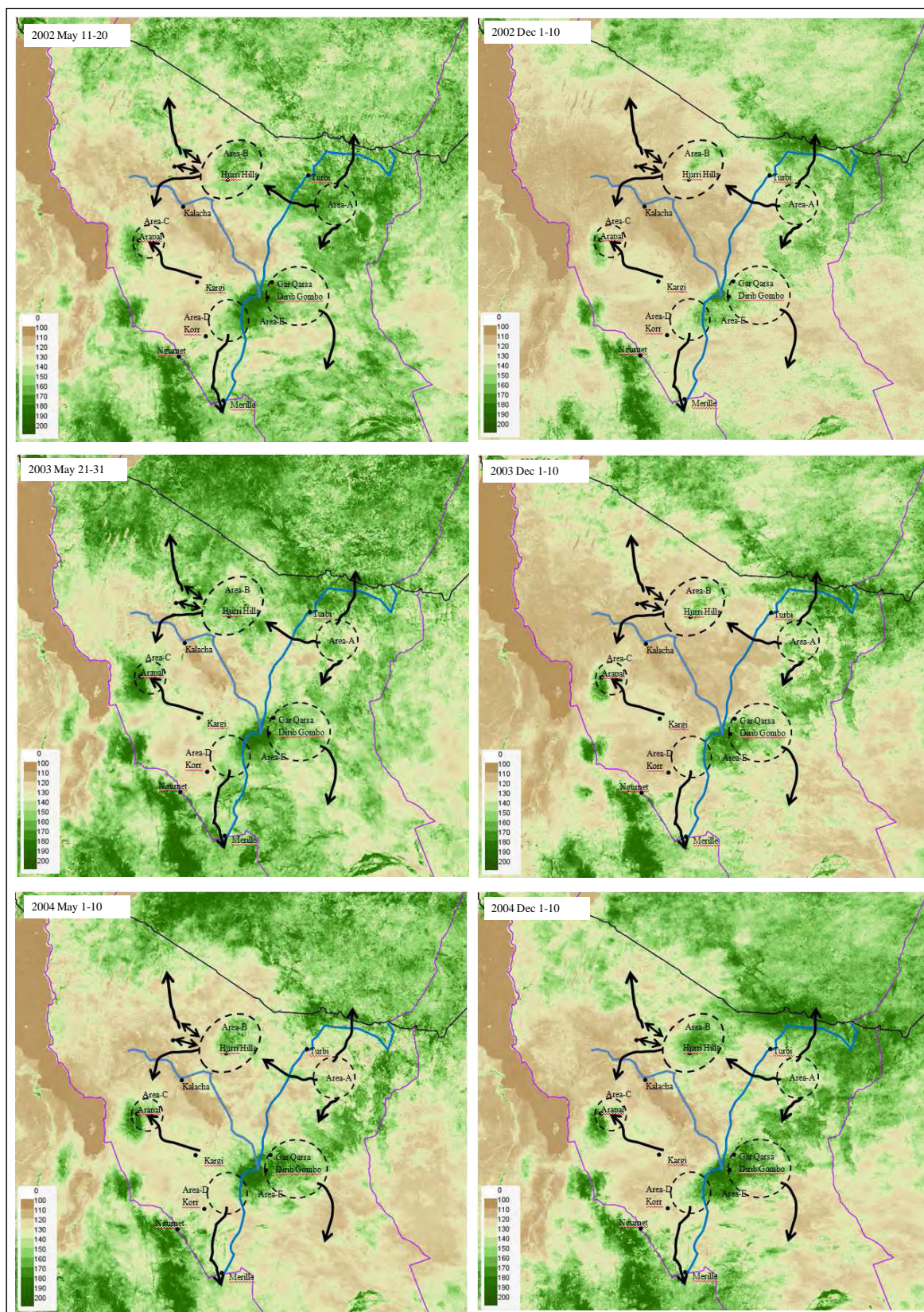
Figures



- Unutilized Grazing Areas
- A) Dida Galgalu (Galgalu plain) area; (Turbi community)
 - B) Hurri Hills area (Hurri Hills community)
 - C) East side area of Mt. Kulal (Arapal community)
 - D) West side area of Mt. Marsabit (Korr/Ballah communities)
 - E) East side area of Mt. Marsabit (Dirib Gonbo community)

Source: JICA Project Team

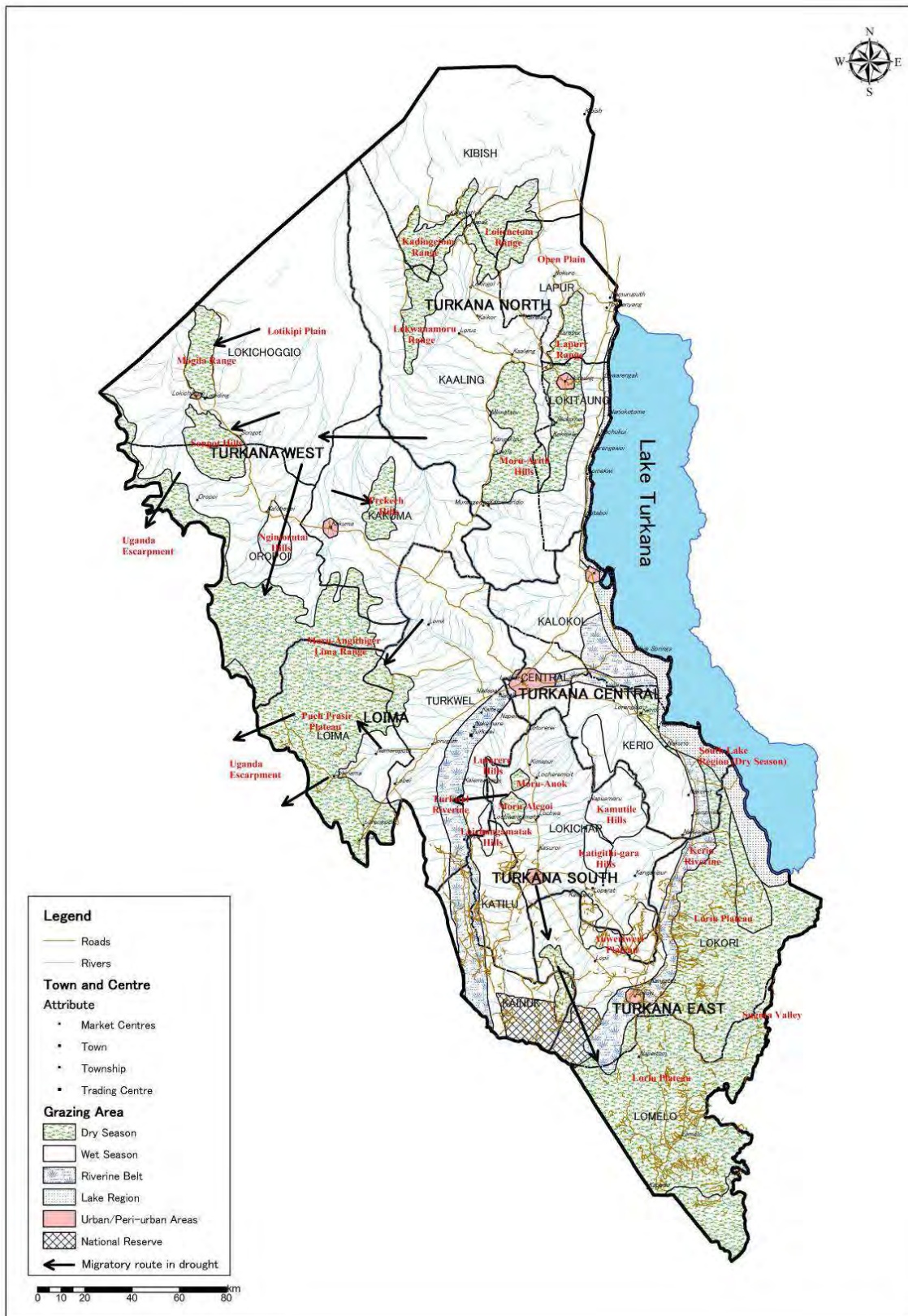
Figure BA4.1.1 Unutilized Grazing Areas and Pastoralist Migratory Routes



Note: NDVI images were selected to have good vegetation conditions in middle of rainy season in Normal year (2002-2004)

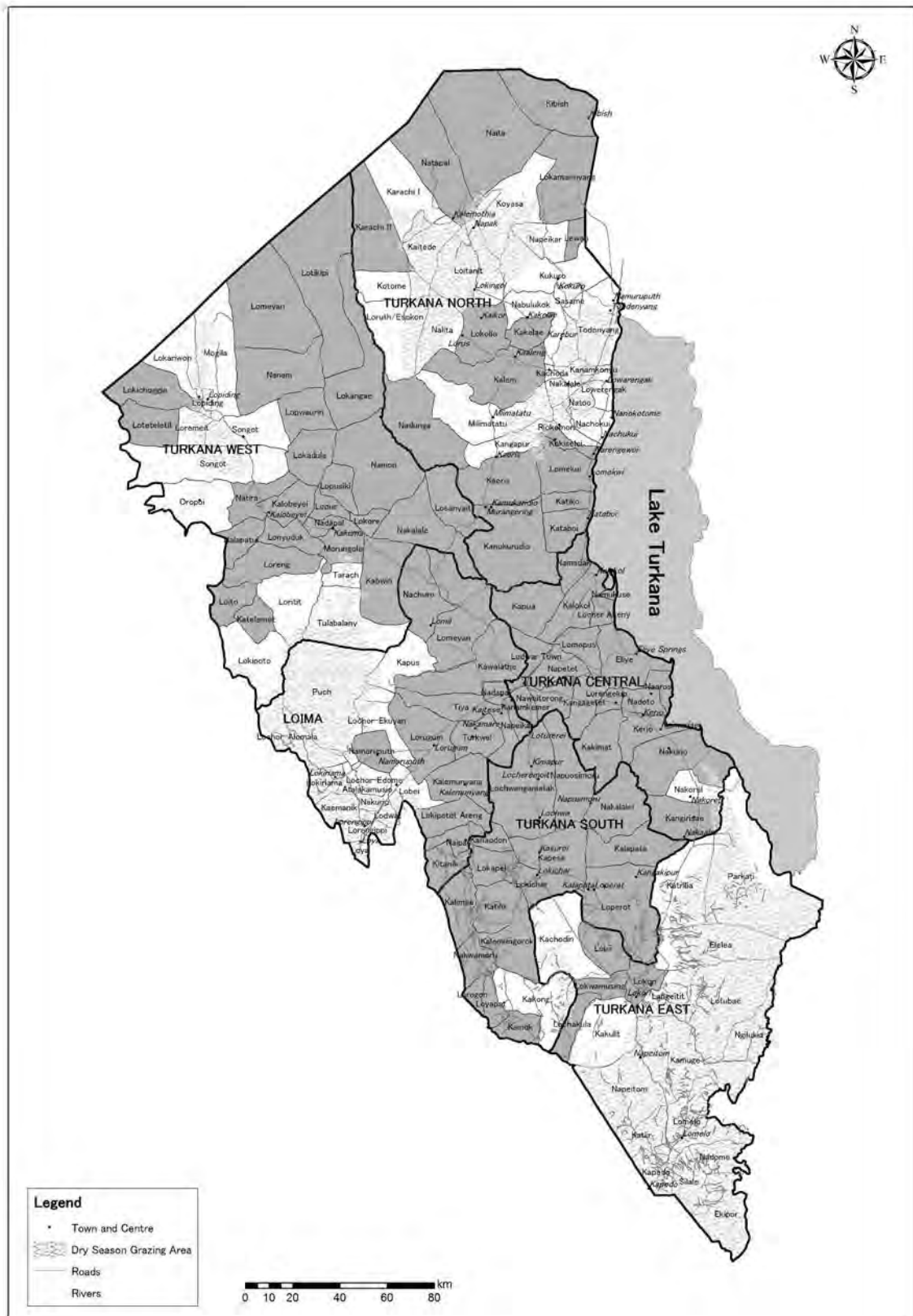
Source: Early Warning Explorer (<http://earlywarning.usgs.gov:8080/EWX/index.html>), Basic Vegetation Data: eMODIS NDVI 10-days, Edited by JICA Project team

Figure BA4.1.2 Rangeland and Migratory Route in Normal Years



Source: UNICEF and JICA Project Team

Figure BA4.6.2 Grazing Area and Migratory Routes in Drought in Turkana County



Source: UNICEF and JICA Project Team

Figure BA4.6.3 Rich Grazing Ground of Sub-locations in Turkana County

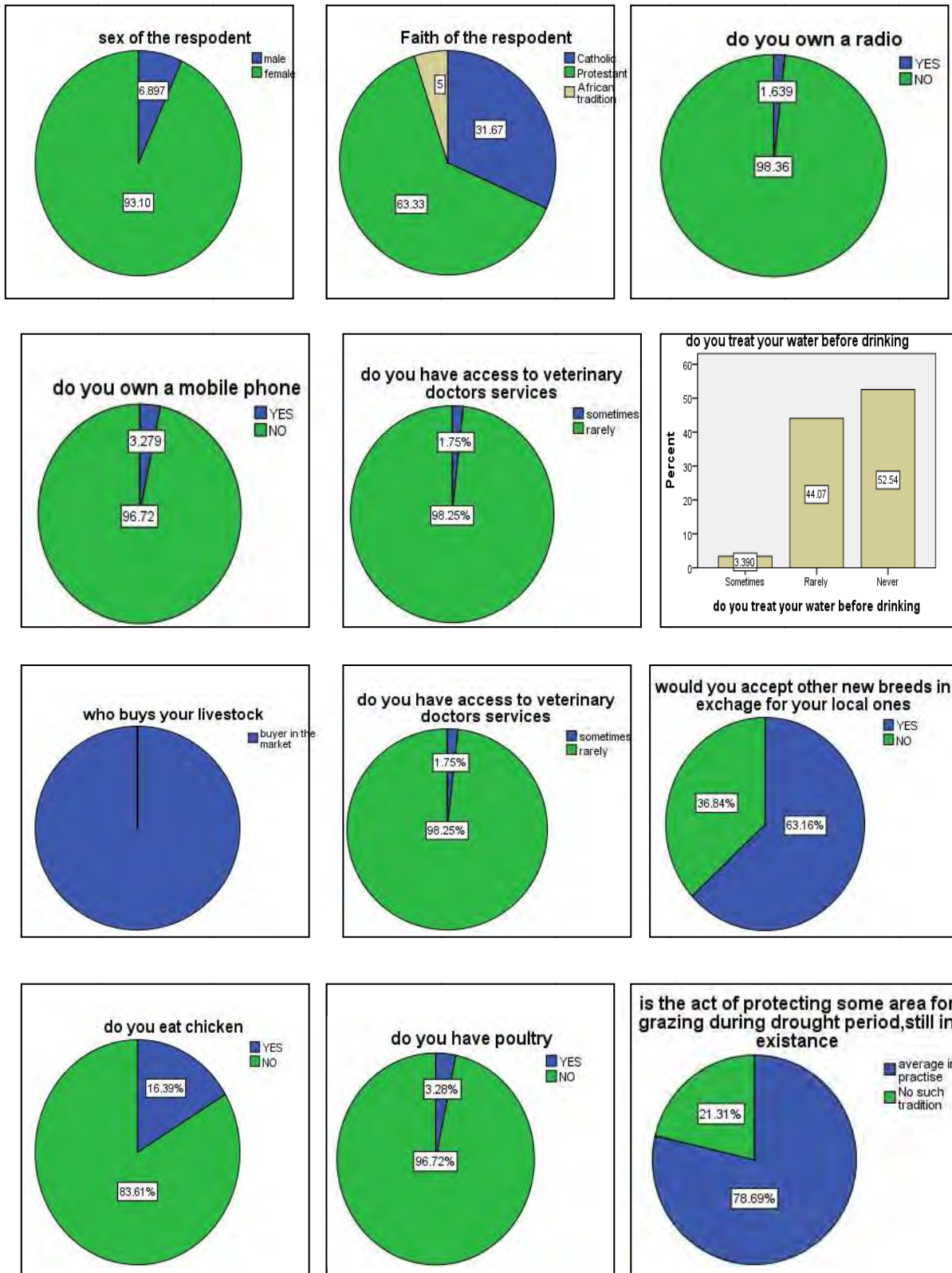


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (1/9 Korr)

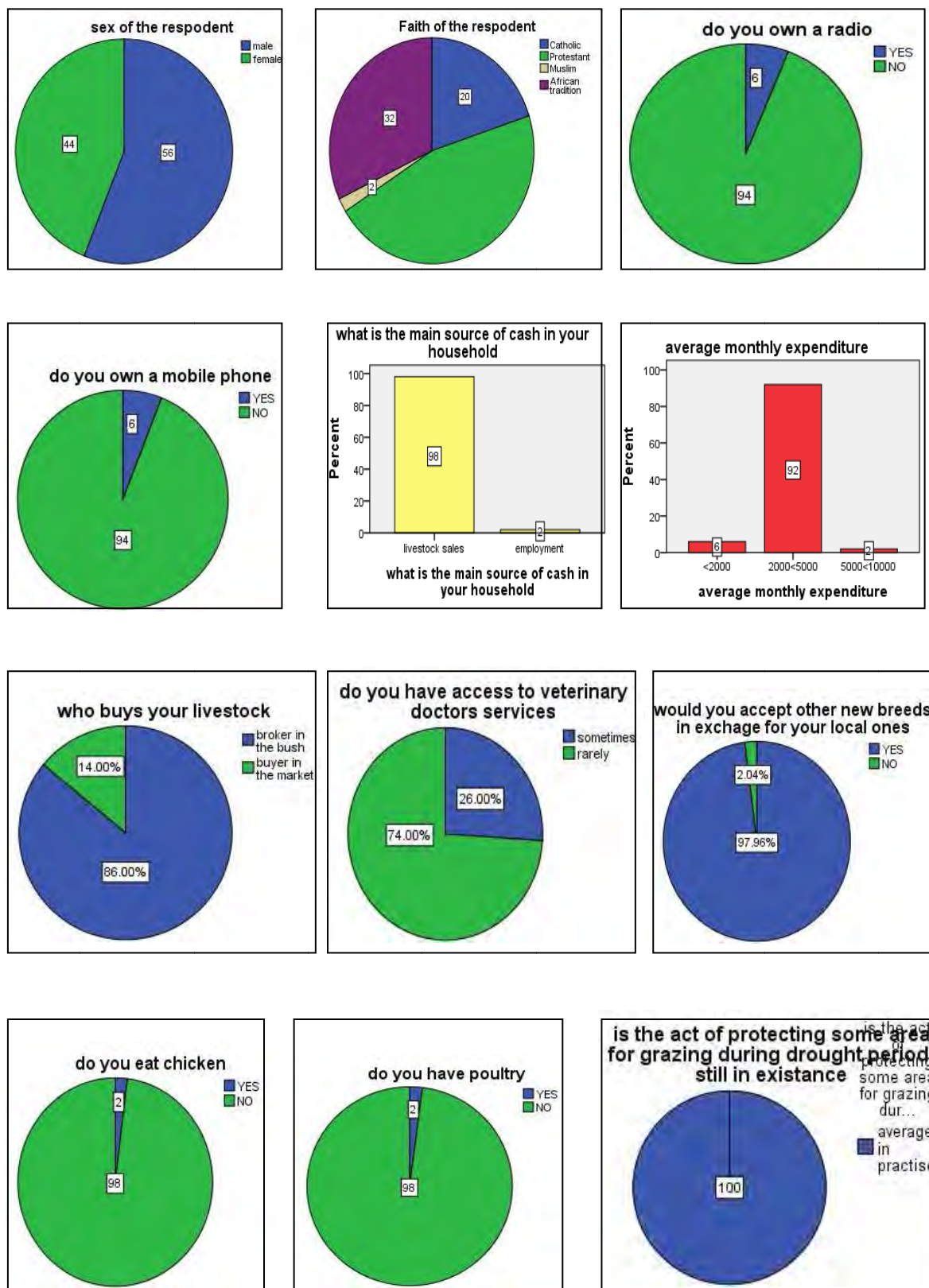


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (2/9 Arapal)

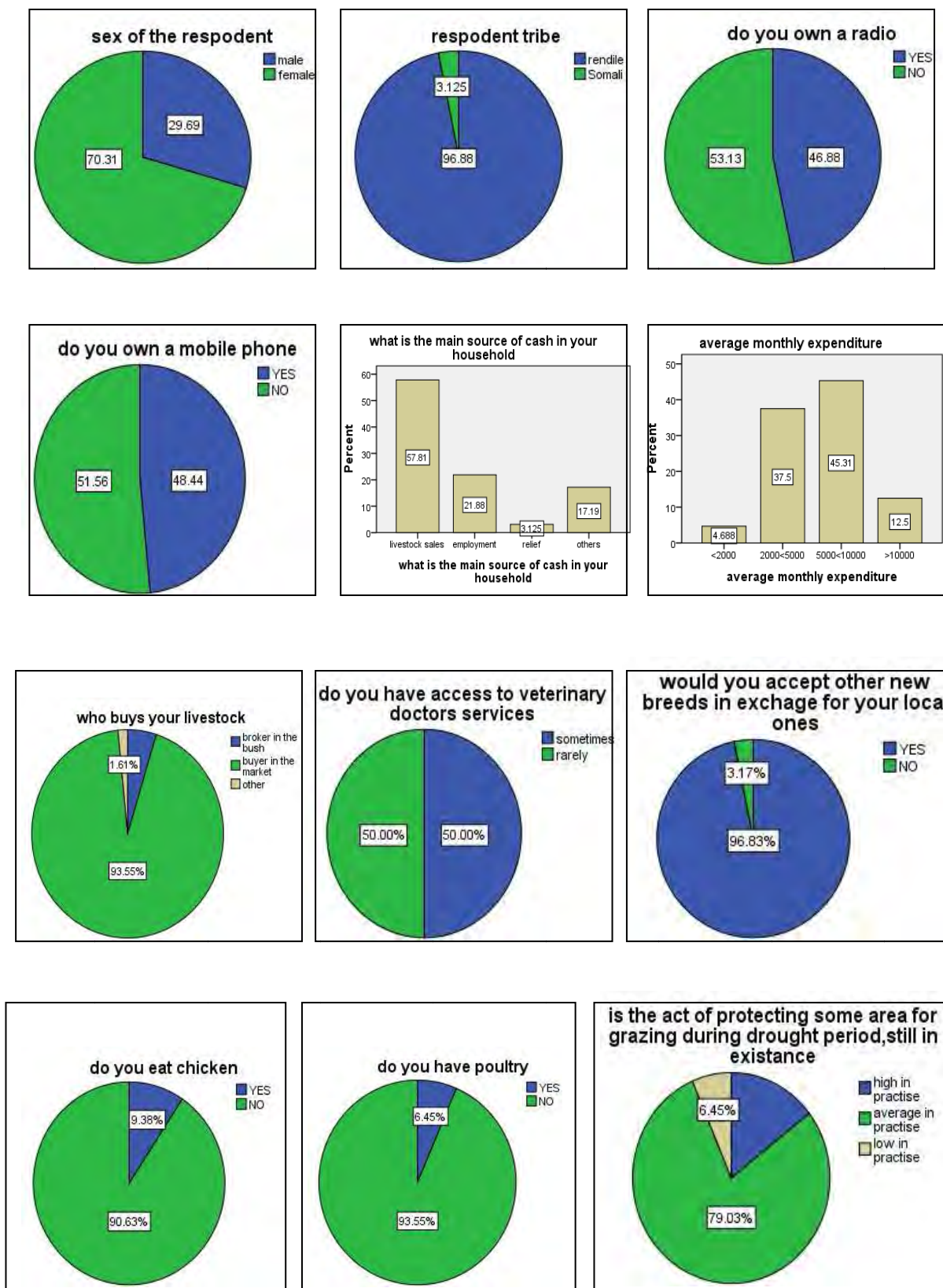


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (3/9 Ngurunit)

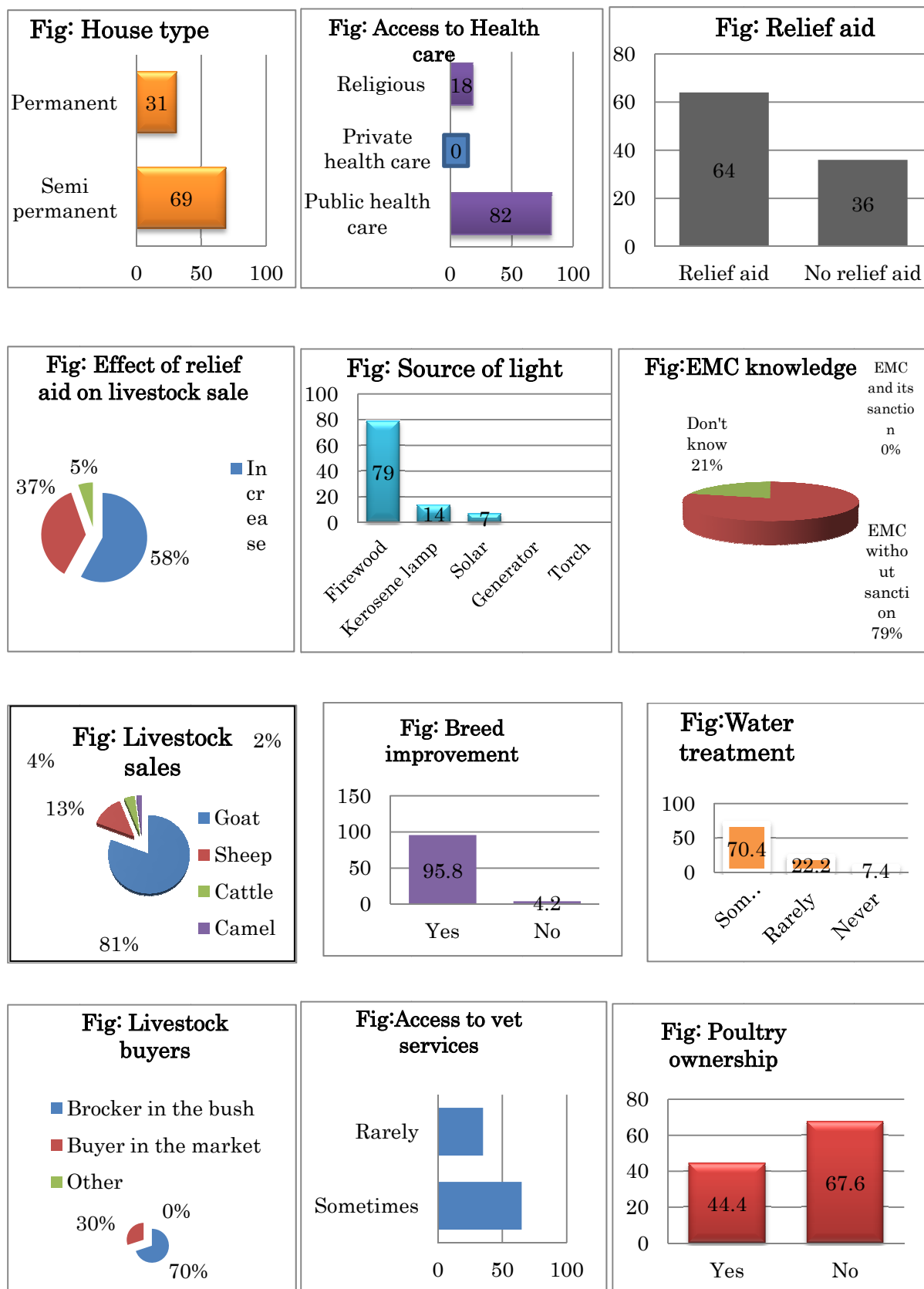


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (4/9 Turbi)

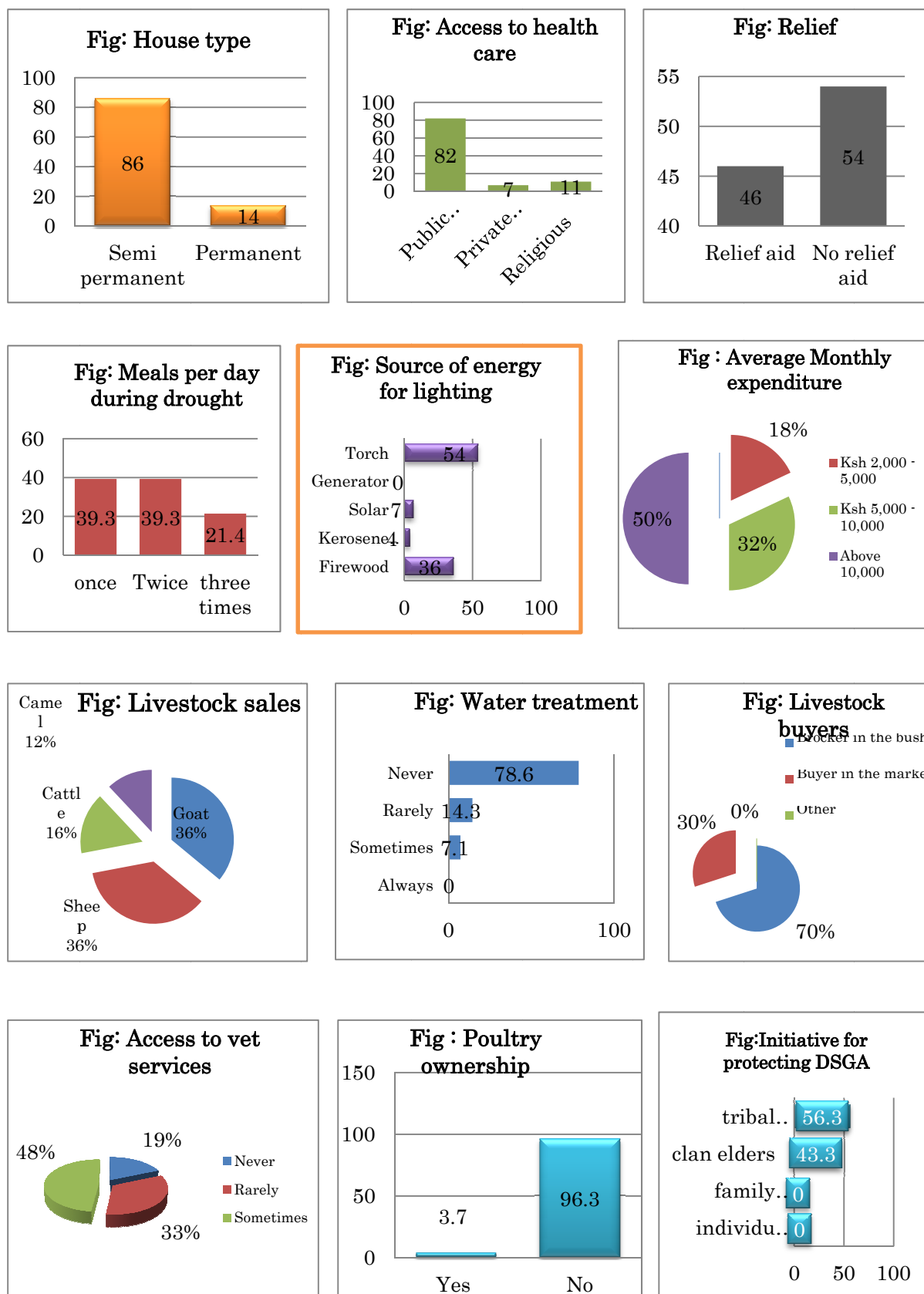


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (5/9 Kalacha)

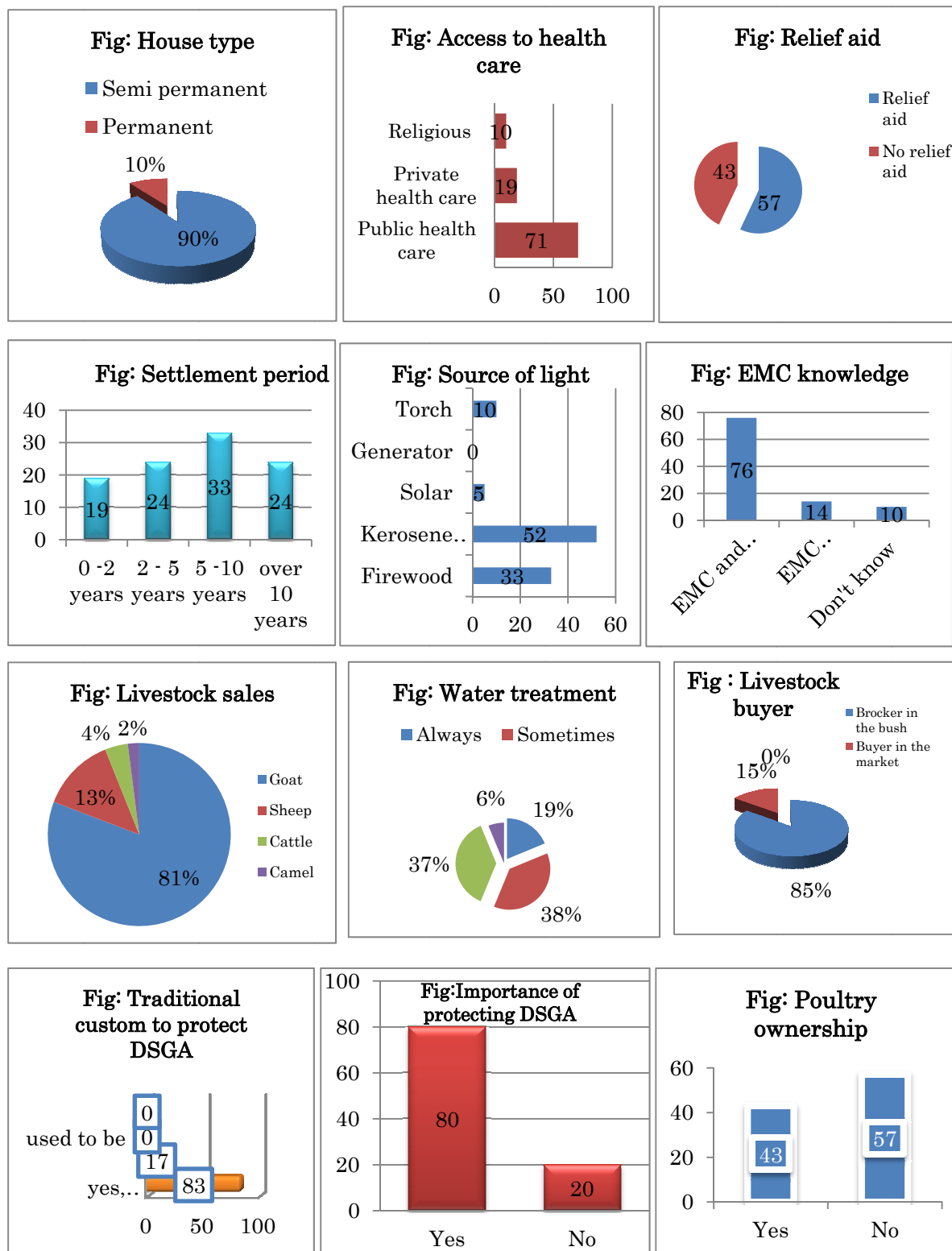


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (6/9 Hurri Hills)

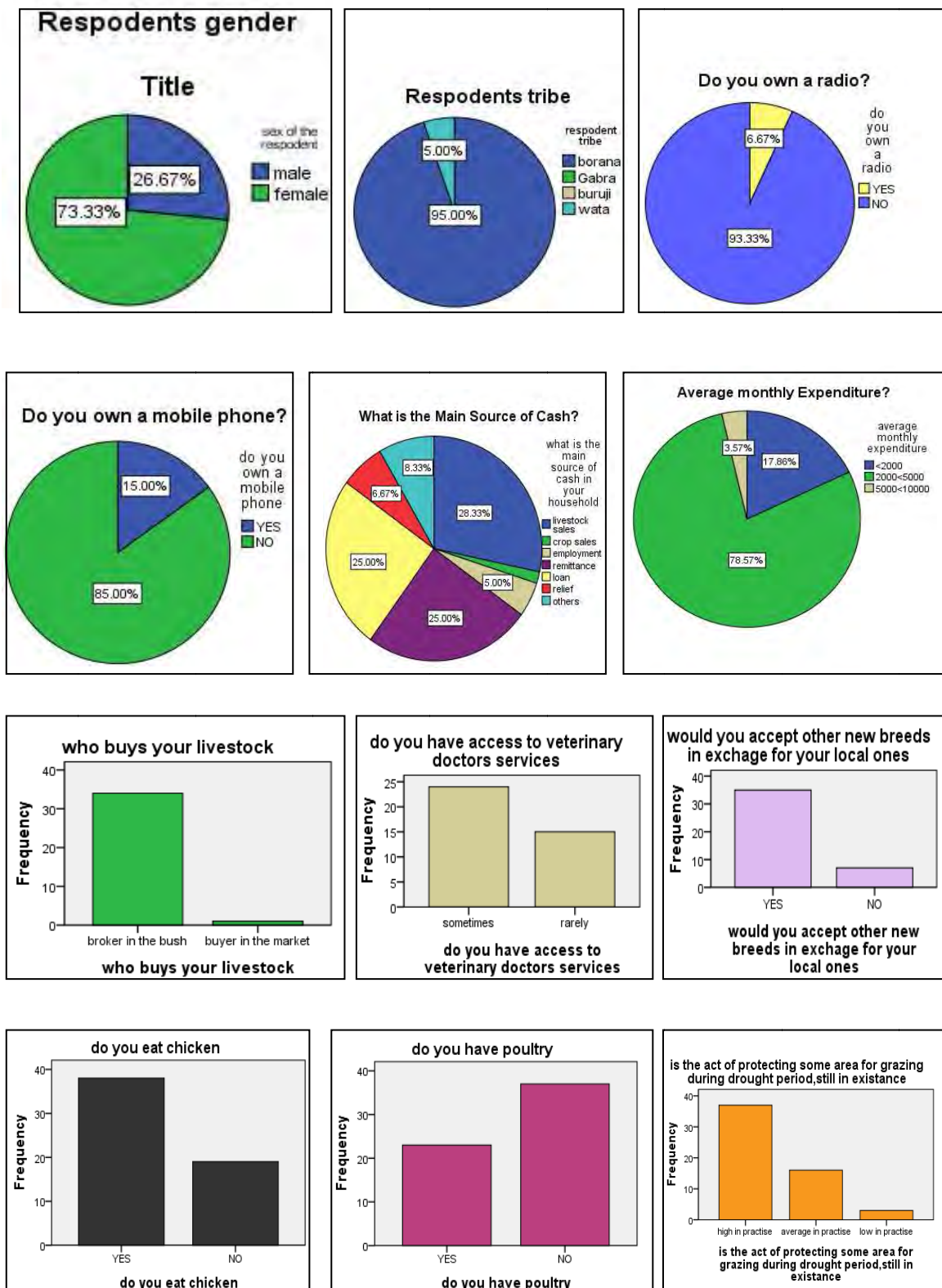


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (7/9 Dirib Gombo)

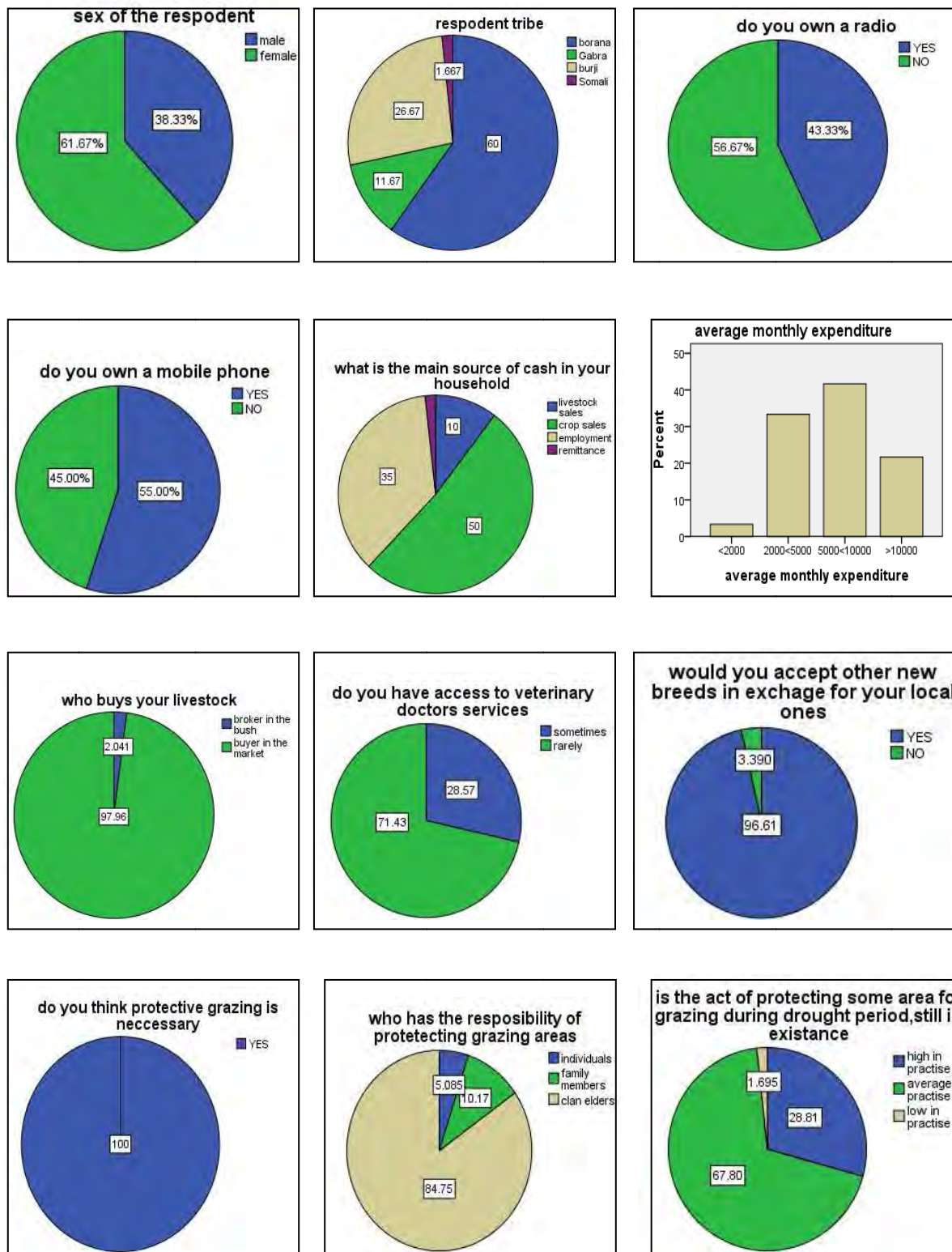
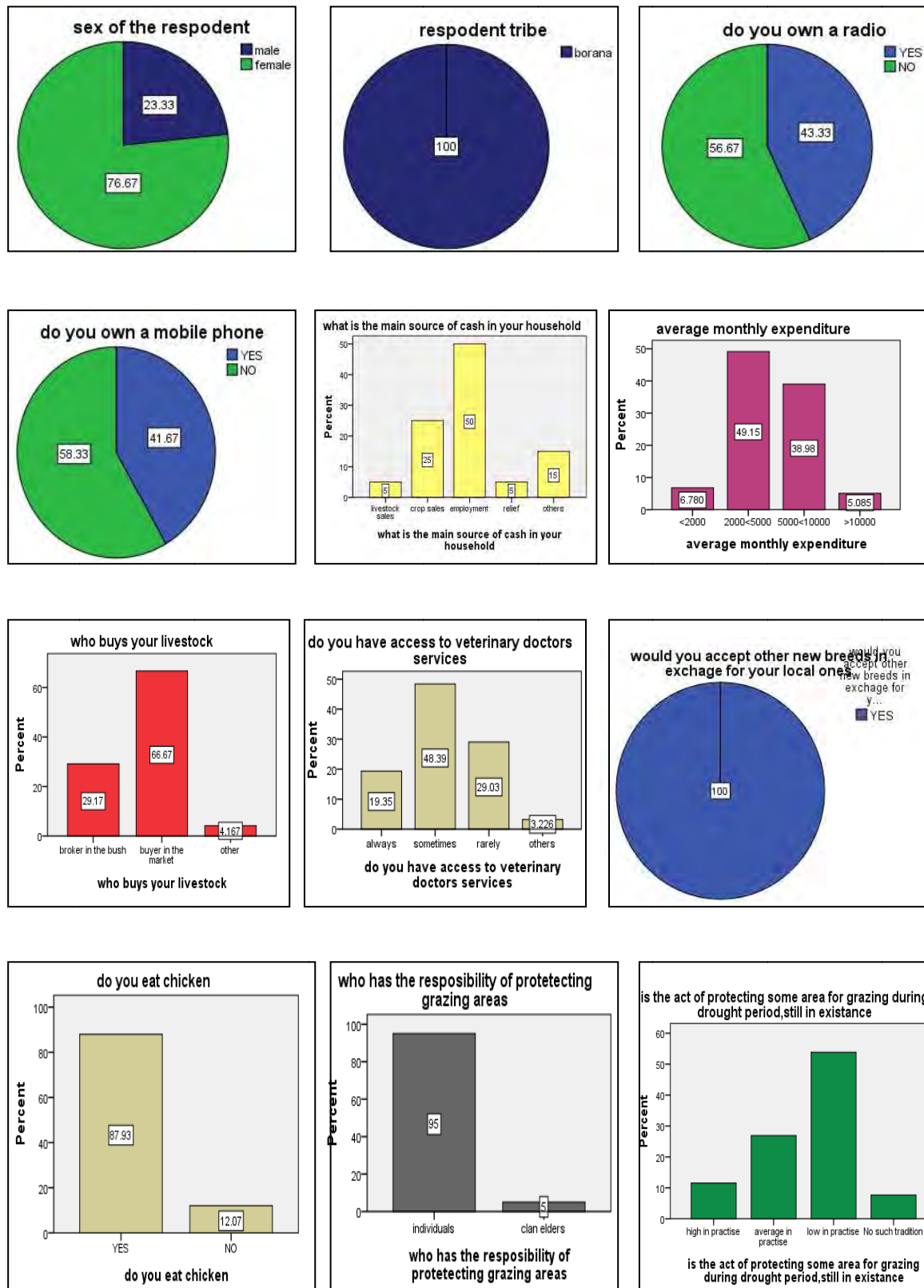


Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (8/9 Jirime/Dakabaricha)



Source: JICA Project Team

Figure BA5.1.1 Results of Social Questionnaire Survey in Marsabit (9/9 Gar Qarsa)

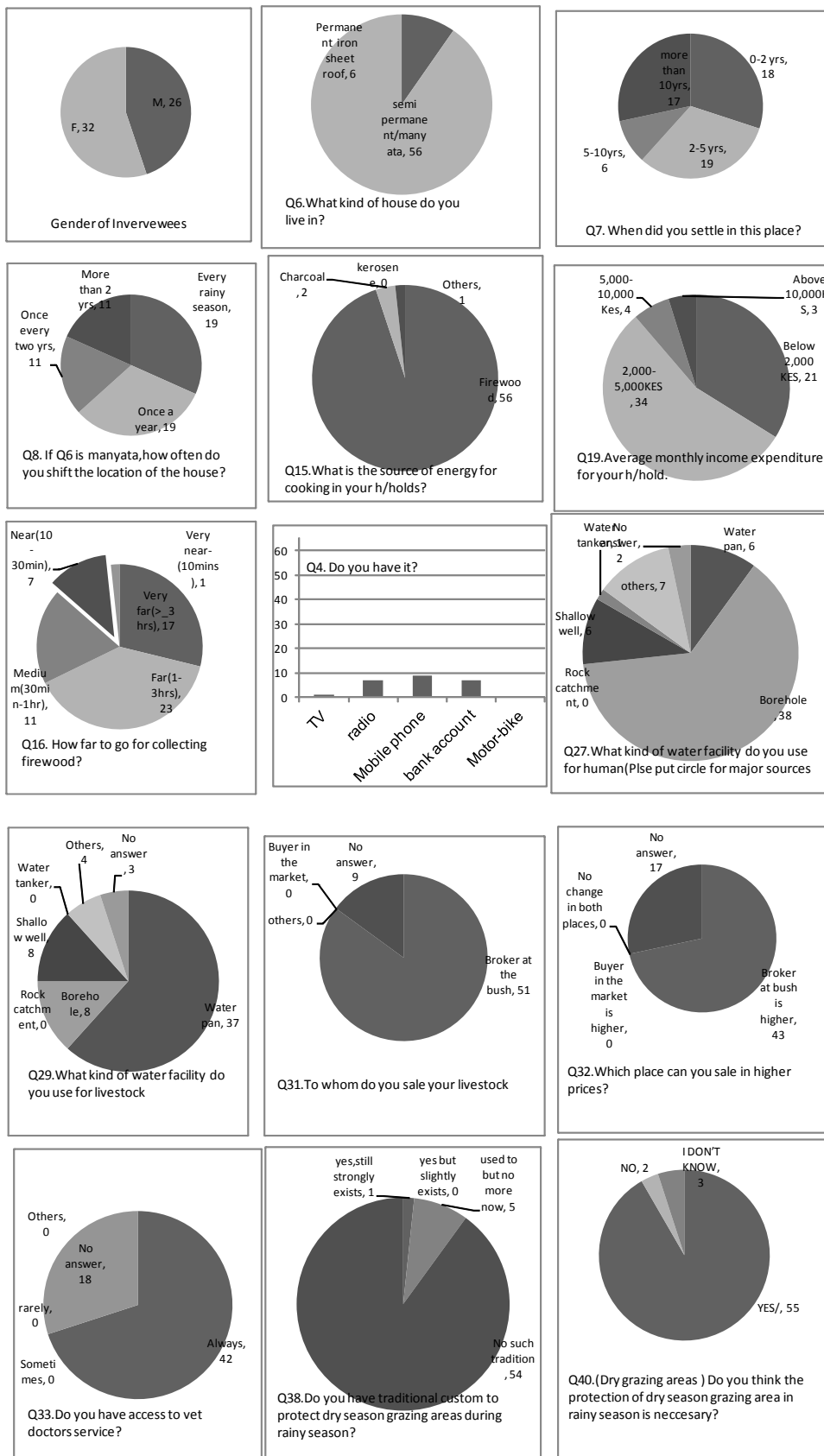


Figure BA5.1.2 Results of Social Questionnaire Survey (1/11 Milimatatu)

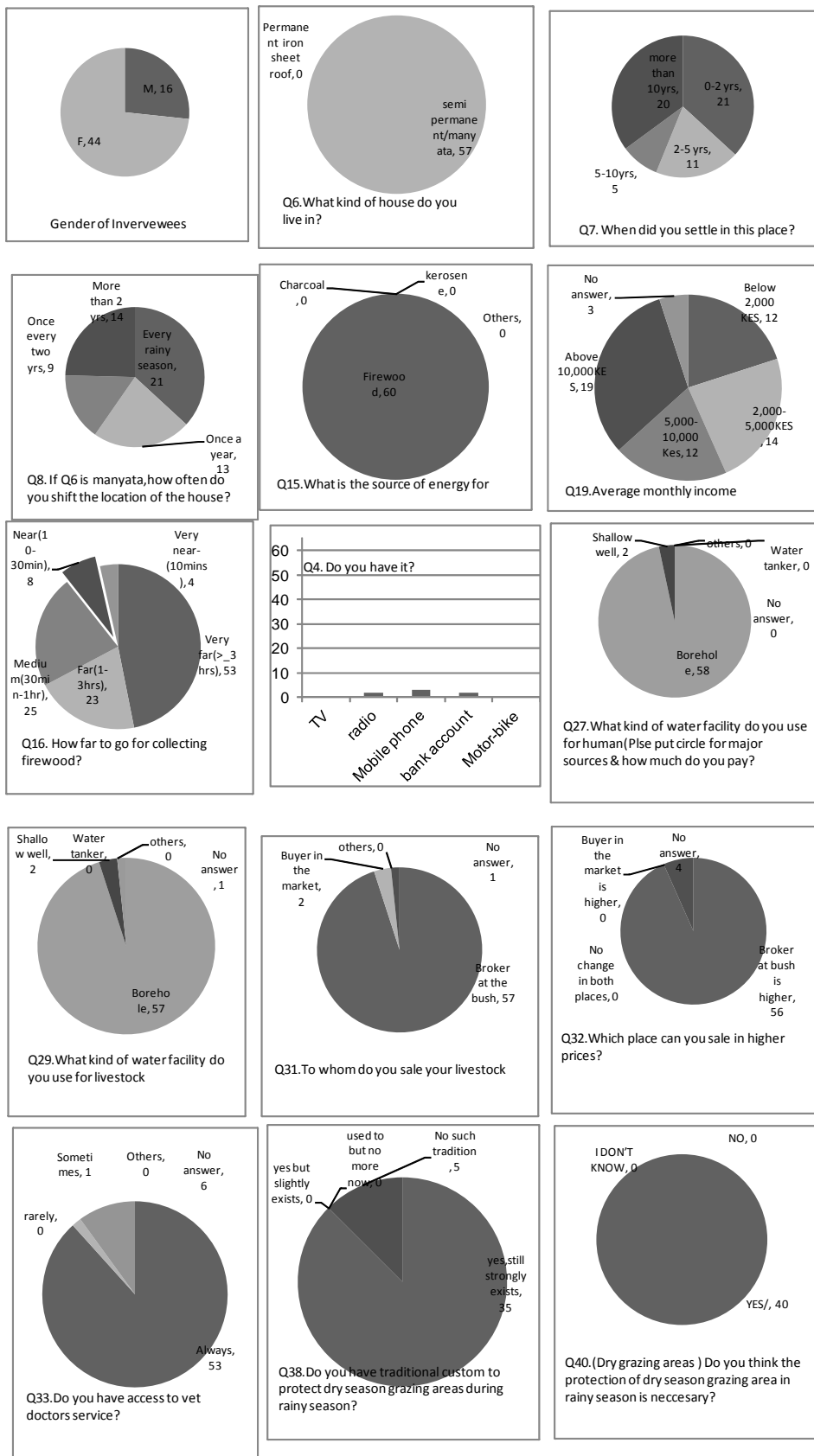


Figure BA5.1.2 Results of Social Questionnaire Survey (2/11 Kangakipur)

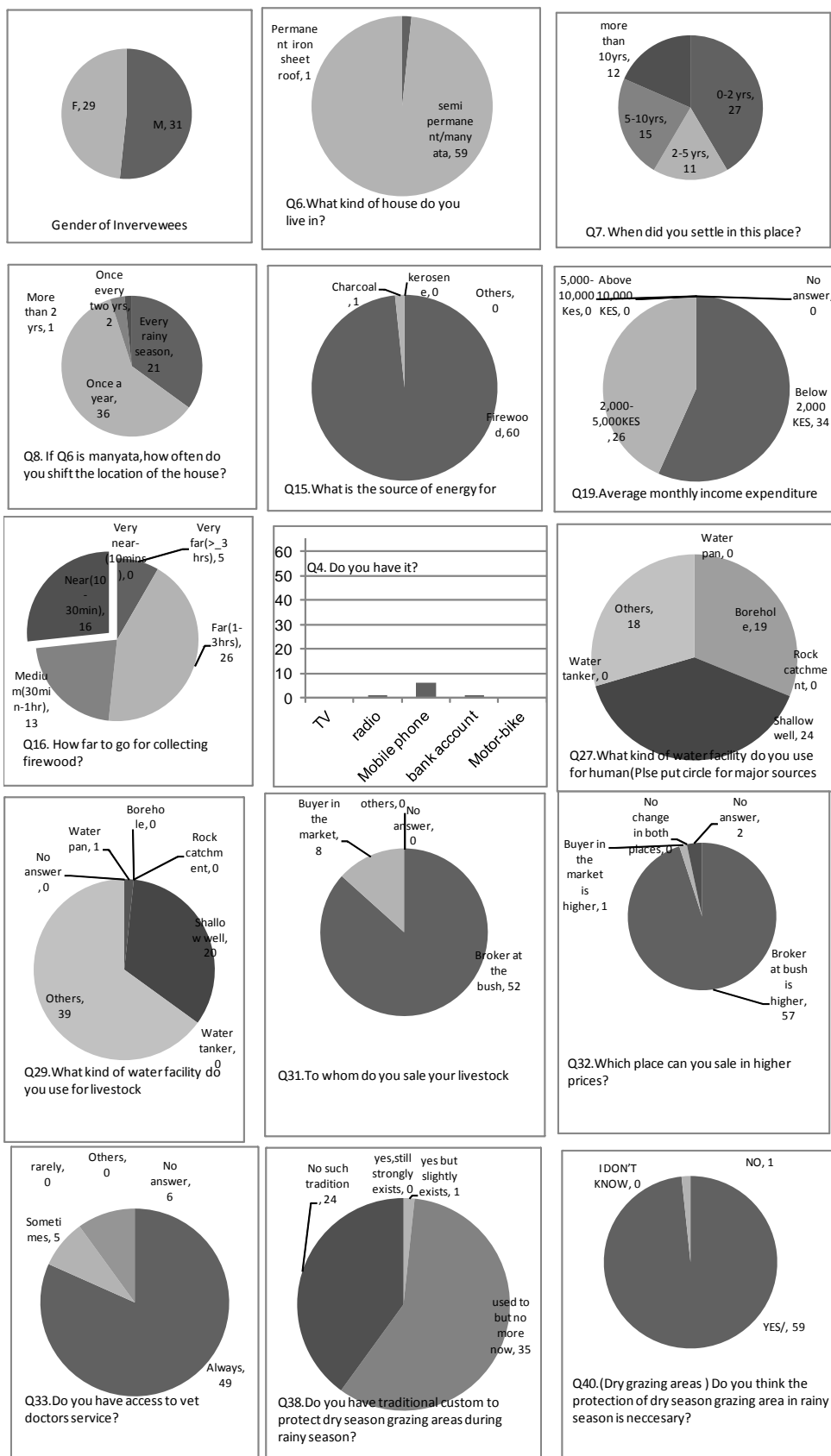


Figure BA5.1.2 Results of Social Questionnaire Survey (3/11 Loritit)

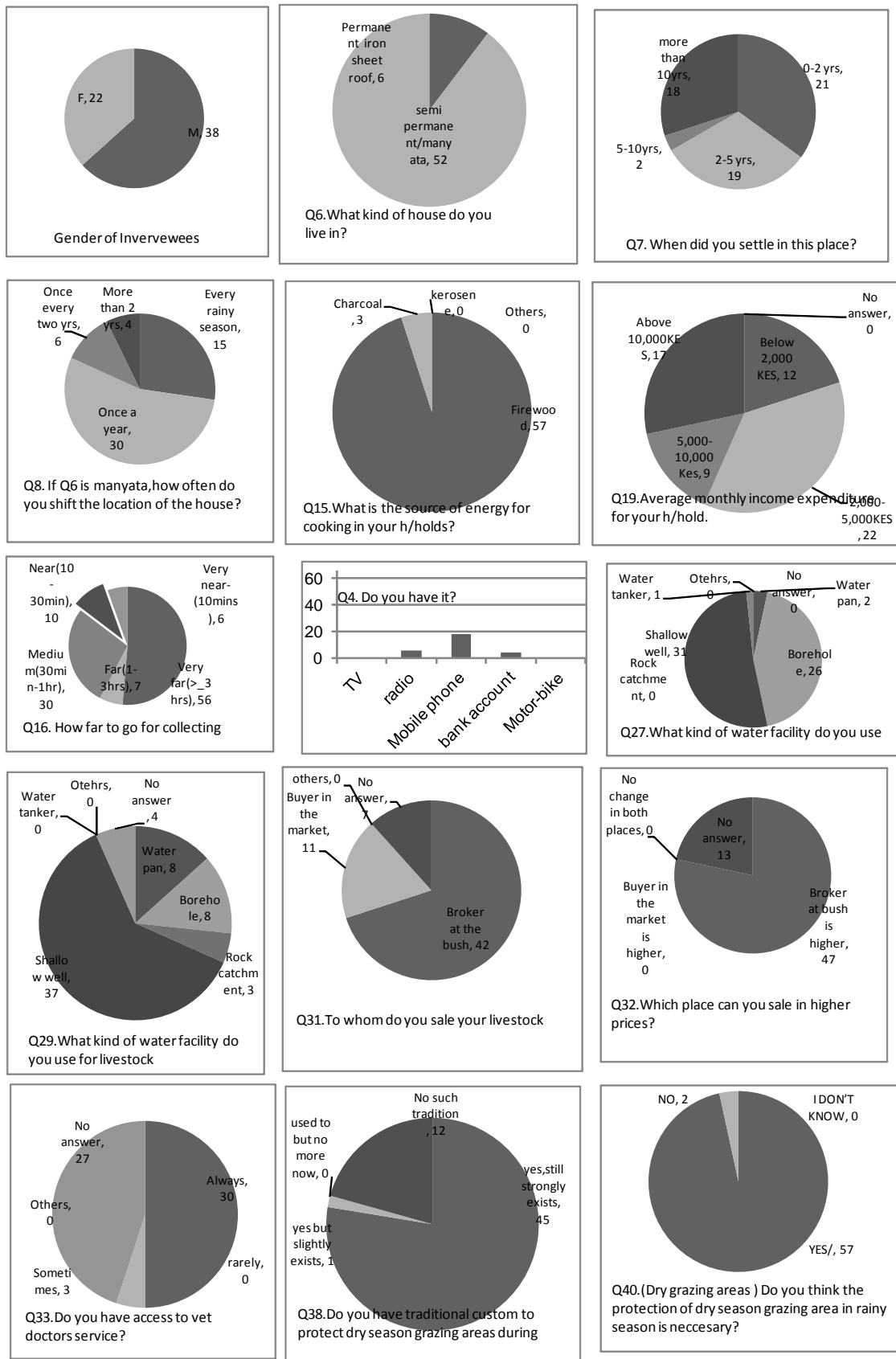


Figure BA5.1.2 Results of Social Questionnaire Survey (4/11 Lokichoggio)

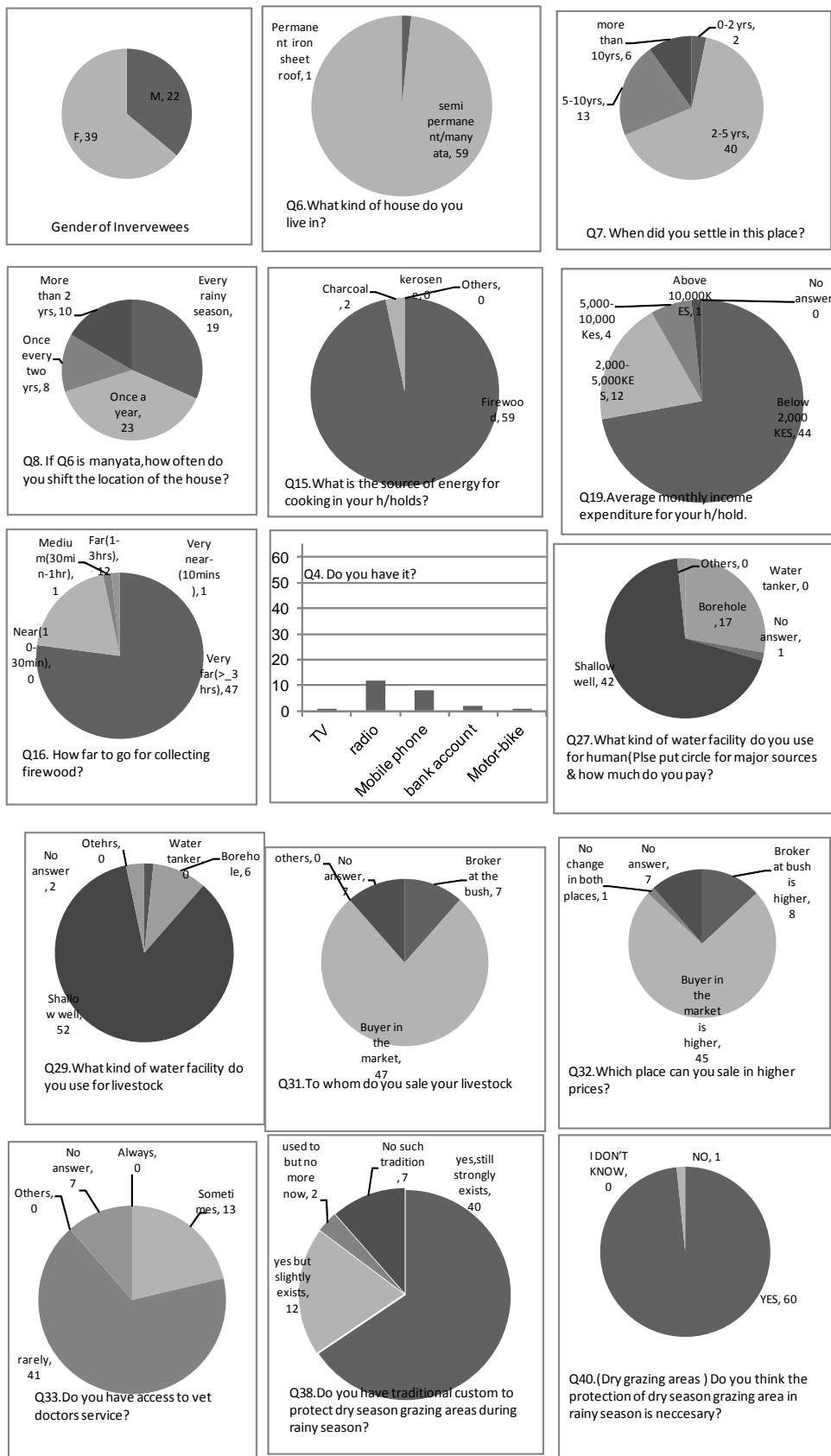


Figure BA5.1.2 Results of Social Questionnaire Survey (5/11 Lokiriama)

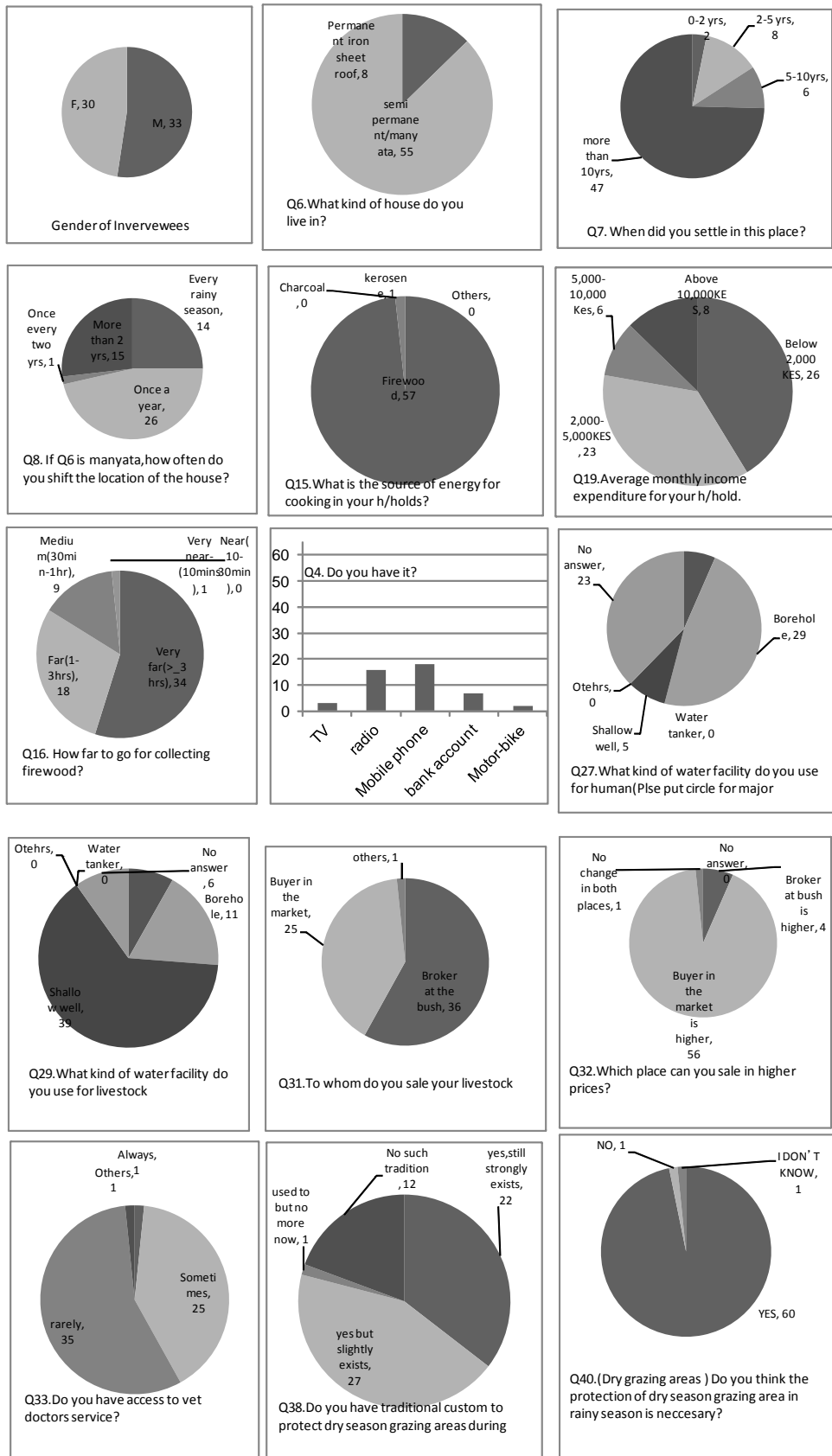


Figure BA5.1.2 Results of Social Questionnaire Survey (6/11 Lorengippi)

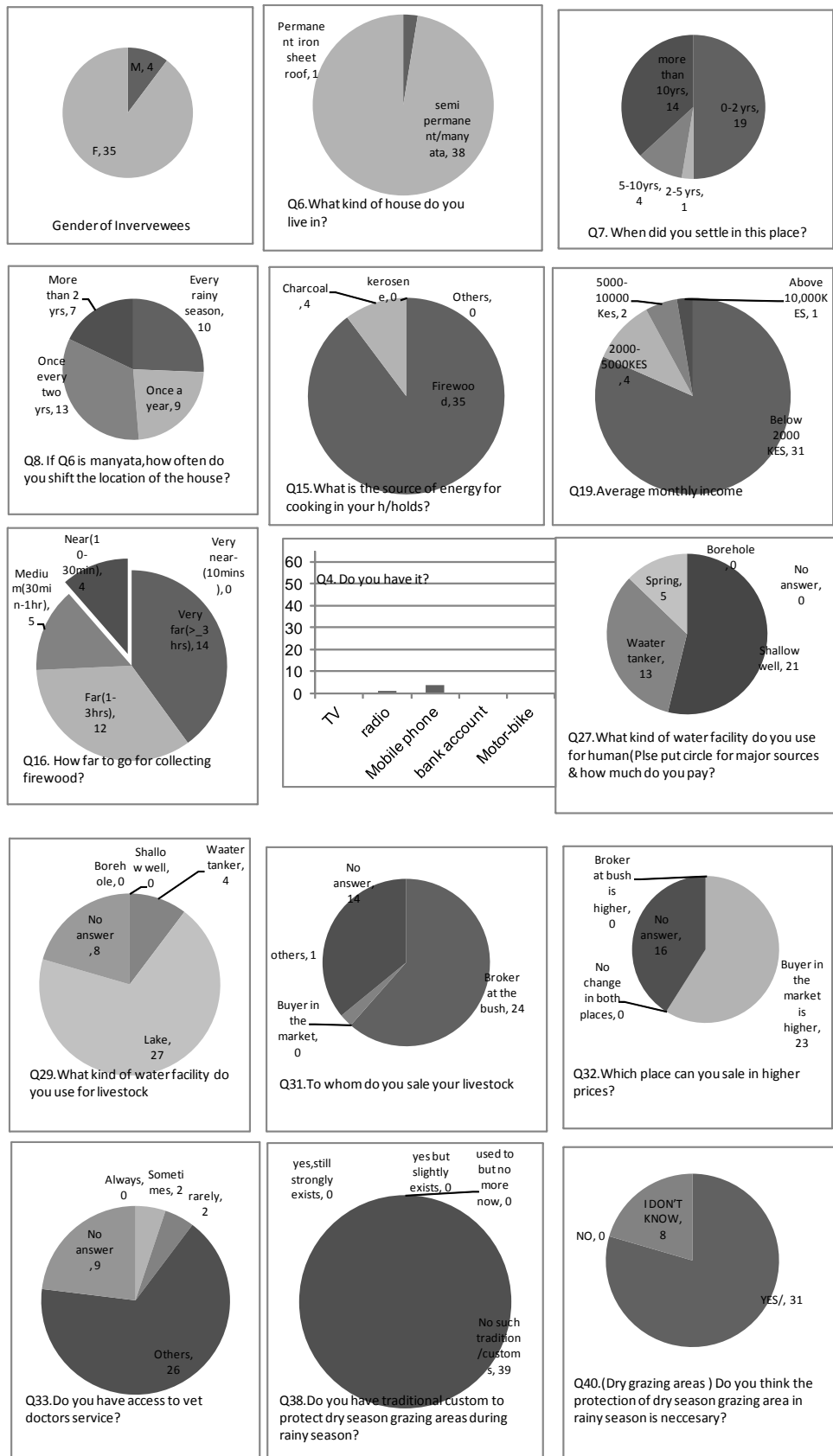


Figure BA5.1.2 Results of Social Questionnaire Survey (7/11 Eliye)

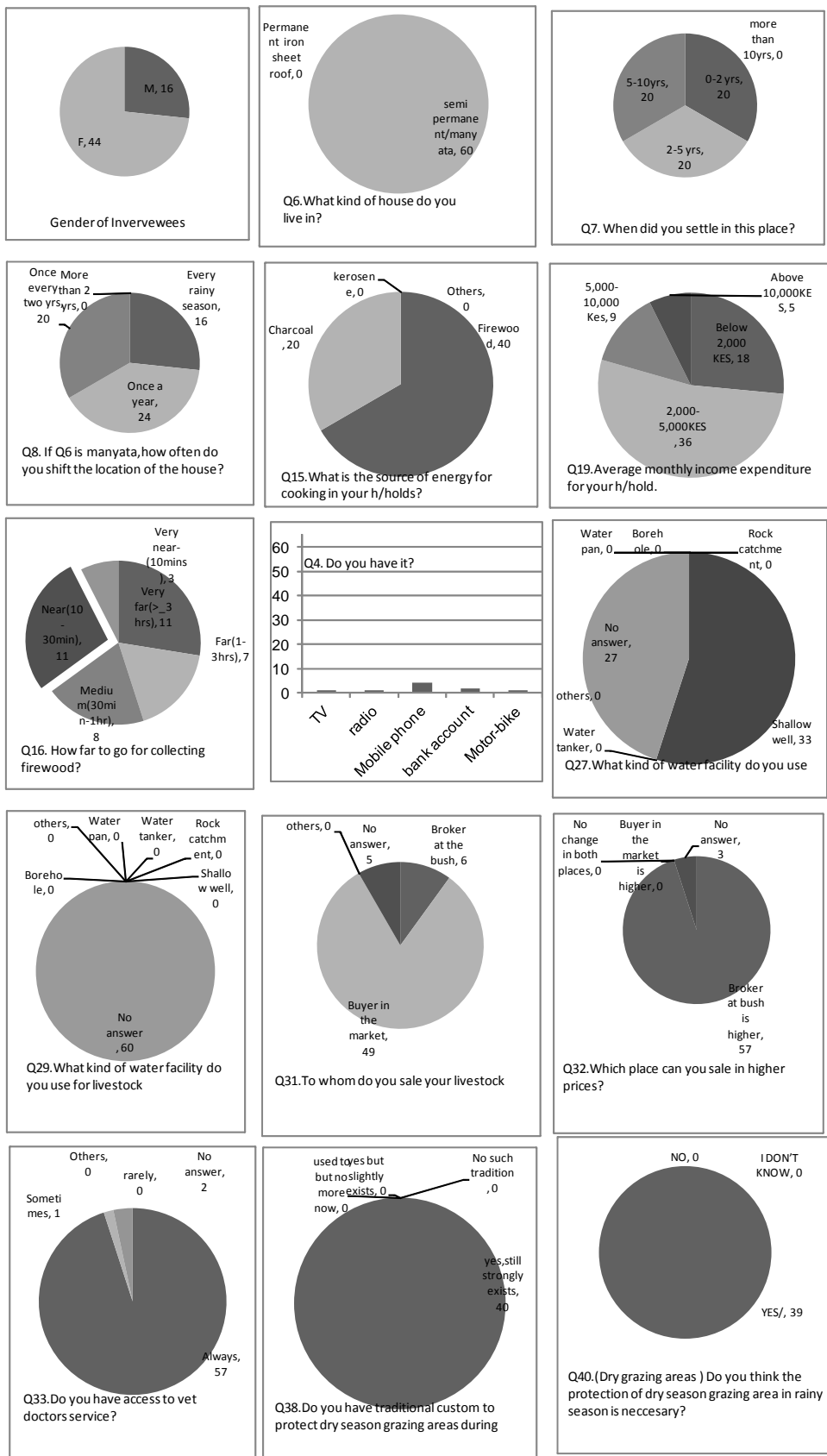


Figure BA5.1.2 Results of Social Questionnaire Survey (8/11 Kerio)

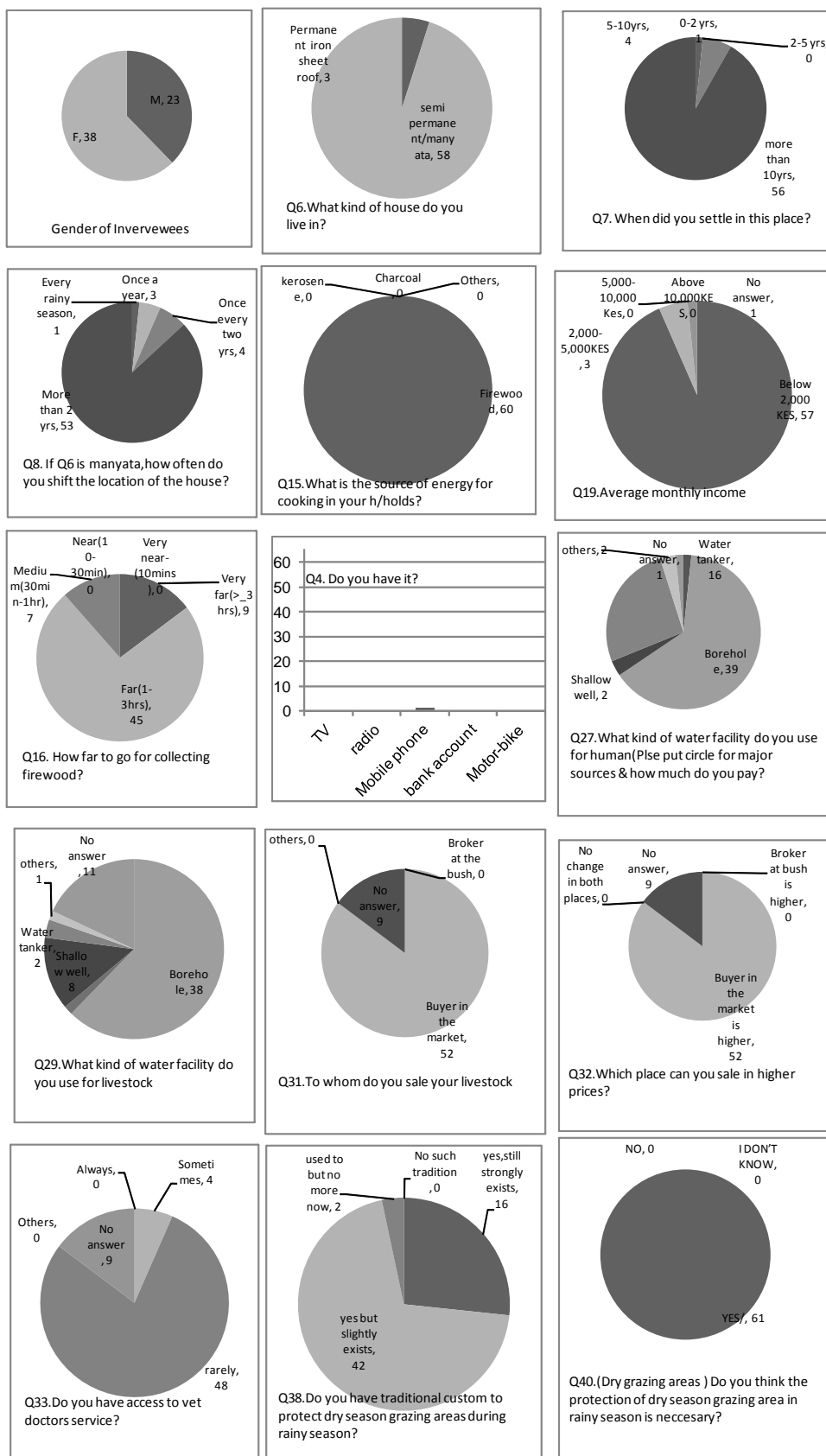


Figure BA5.1.2 Results of Social Questionnaire Survey (9/11 Lochawaangikamatak)

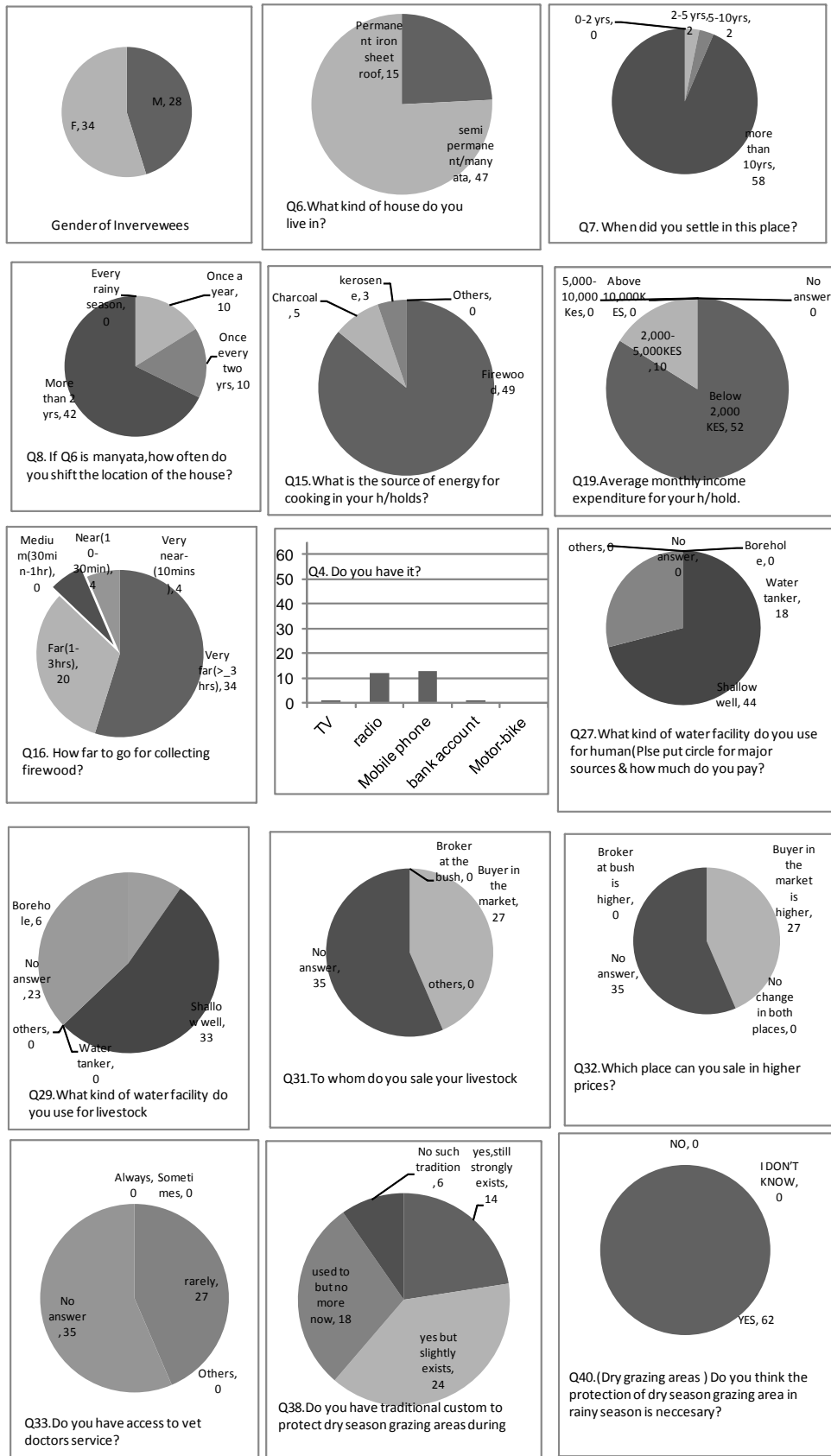
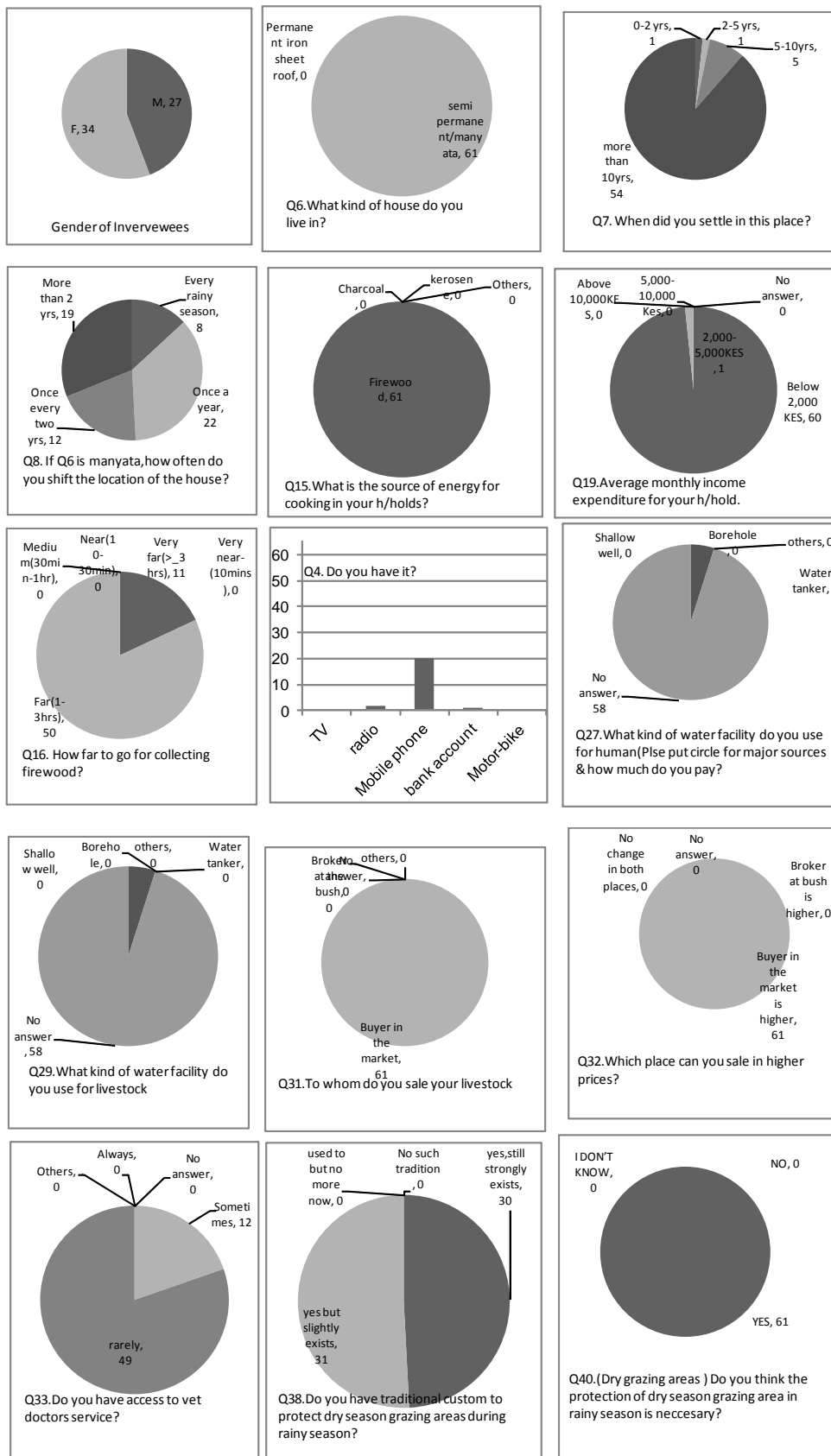


Figure BA5.1.2 Results of Social Questionnaire Survey (10/11 Lokichar)



Source: JICA Project Team

Figure BA5.1.2 Results of Social Questionnaire Survey (11/11 Lopii)

ANNEX B

COMMUNITY BASED DROUGHT MANAGEMENT

FINAL REPORT

THE PROJECT FOR ENHANCING COMMUNITY RESILIENCE AGAINST DROUGHT IN NORTHERN KENYA

ANNEX B COMMUNITY BASED DROUGHT MANAGEMENT

Table of Contents

	<i>Page</i>
CHAPTER B1. CONCEPT OF COMMUNITY MANAGED DISASTER RISK REDUCTION (CMDRR) APPROACH.....	B1 - 1
B1.1 Outline of CMDRR Approach	B1 - 1
B1.2 Conceptual Framework underlying CMDRR.....	B1 - 1
B1.3 Good Practices of CMDRR Approach in the Drought Risk Reduction	B1 - 1
B1.4 Application of CMDRR Approach in the ECoRAD Project.....	B1 - 2
CHAPTER B2. DISASTER RISK REDUCTION ASSESSMENT AND COMMUNITY ACTION PLANS IN THE SELECTED 9 COMMUNITIES IN MARSABIT.....	B2 - 1
B2.1 CMDRR Workshop and Disaster Risk Reduction (DRR) Assessment.....	B2 - 1
B2.2 Selection of Sub-projects in Marsabit	B2 - 1
B2.2.1 General.....	B2 - 1
B2.2.2 Natural Resource Management.....	B2 - 2
B2.2.3 Livestock Value Chain Improvement.....	B2 - 4
B2.2.4 Livelihood Diversification.....	B2 - 5
CHAPTER B3. DISASTER RISK REDUCTION ASSESSMENT AND COMMUNITY ACTION PLANS IN THE SELECTED 11 COMMUNITIES IN TURKANA	B3 - 1
B3.1 CMDRR Workshop and Disaster Risk Reduction (DRR) Assessment.....	B3 - 1
B3.2 Selection of Sub-projects in Turkana	B3 - 2
B3.2.1 General.....	B3 - 2

B3.2.2	Natural Resource Management.....	B3 - 3
B3.2.3	Livestock Value Chain.....	B3 - 11
B3.2.4	Livelihood Diversification	B3 - 12
CHAPTER B4. STRENGTHNING OF COMMUNITY DROUGHT MANAGEMENT		
	COMMITTEE	B4 - 1
B4.1	General Concept of Committee for Community Managed Disaster Risk Reduction	B4 - 1
B4.1.1	Purpose of the Committee	B4 - 1
B4.1.2	Roles and Functions of the Committee.....	B4 - 1
B4.2	Situation on the Ground in Application of CMDRR Approach.....	B4 - 1
B4.2.1	Government Policy and Structure for Drought Related Management Committee.....	B4 - 1
B4.2.2	Situation of Existing Committees and Groups in the Community	B4 - 4
B4.3	Proposed Roles and Functions of the Ground Level Committee for CMDRR in the Project Based on the Analysis of the Situation of Target Areas	B4 - 5
B4.4	Basic Approach to Strengthen DMC.....	B4 - 6
B4.5	Progress in Establishment of the Community Drought Management Committee	B4 - 7
B4.5.1	DMC Training and Post Training Activities.....	B4 - 7
B4.5.2	Actions Taken by the Committees After the Training.....	B4 - 9
B4.5.3	Activities for Drought Resilience by the Community	B4 - 10
B4.5.4	Roles of the DMC as Umbrella Organisation.....	B4 - 11
B4.6	Survey on the DMC for Drought Resilience.....	B4 - 12
B4.7	Conclusion, and Lessons Learned.....	B4 - 15

List of Tables

Table AB2.2.1	Selected Sub-projects.....	B2 - 2
Table AB2.2.2	Sub-projects for Natural Resources Management	B2 - 3
Table AB3.1.1	Major Activities in CAPs without External Financial Supports	B3 - 1
Table AB3.1.2	Major Activities in CAPs with External Financial Supports	B3 - 2
Table AB3.2.1	Selected Sub-projects.....	B3 - 3

Table AB3.2.2 Type of Dry/Wet Season Grazing Area in Turkana and Marsabit.....	B3 - 4
Table AB3.2.3 Initial Proposed Sites for Drilling in Turkana County	B3 - 8
Table AB3.2.4 Final Drilling Sites in the Sub-project	B3 - 9
Table AB3.2.5 Proposed Sites for Subsurface Dam in Tarach River Watershed.....	B3 - 9
Table AB3.2.6 Sub-projects for Natural Resources Management	B3 - 10
Table AB3.2.7 Proposed Activities and Selection Scoring for Livestock Market Vitalization.....	B3 - 11
Table AB3.2.8 Selected Five Sub Locations for Livelihood Diversification Program ...	B3 - 12
Table AB4.2.1 Features of Sectors of Development Committees and Food Security Steering Groups.....	B4 - 4
Table AB4.5.1 Training Summary of DMC Development	B4 - 7
Table AB4.5.2 Training Schedule for DMC Development.....	B4 - 8
Table AB4.5.3 Discussion Results on Activities to be Done in Each Stage of EWS.....	B4 - 8
Table AB4.6.1 Indicators for Improvement of Community Resilience Assessment.....	B4 - 13
Table AB4.6.2 Influencing Factors in Enhancement of Community Resilience	B4 - 14
Table AB4.6.3 Outline of Study Sampling.....	B4 - 14
Table AB4.6.4 Study Sample for Community Resilience Assessment.....	B4 - 14
Table BB1.2.1 Process of Preparing CMDRR Plan	TB - 1
Table BB3.2.1 General Socio Economic Condition in Target 11 Sub Locations	TB - 2
Table BB4.5.1 Planned Actions of DMC and Actual Implementation	TB - 6
Table BB4.6.1 Outline of Evaluation of Enhancement of Community Resilience	TB - 10

List of Figures

Figure AB3.2.1 Strategy of Boreholes in Line.....	B3 - 6
Figure AB4.2.1 Institutional Structure in Relation with Drought Management	B4 - 3
Figure AB4.3.1 Concept and Functions of Committees for CMDRR.....	B4 - 5
Figure AB4.4.1 Conceptual Structure of DMC Development Supports.....	B4 - 6
Figure AB4.5.1 Presentation and Group Work in the Trainings for DMC Members	B4 - 9
Figure AB4.5.2 DMC Members Teaching about EWS to the Community	B4 - 9
Figure BB3.2.1 Grazing Area and Migratory Routes in Drought in Turkana County	FB - 1
Figure BB3.2.2 Present Operational Boreholes in Turkana County	FB - 2
Figure BB3.2.3 Natural Resource Development Belts.....	FB - 3

List of Attachment

- | | |
|-----------------|--|
| Attachment B2-1 | Community Action Plans of Marsabit |
| Attachment B3-1 | Community Action Plans of Turkana |
| Attachment B4-1 | Training Module or DMC training on Basic Functions of the DMCs and Activities based on EWS |
| Attachment B4-2 | Quantitative Data of Results of the Questionnaire Interview Survey on Community Drought Resilience through DMC/CDC |

CHAPTER B1. CONCEPT OF COMMUNITY MANAGED DISASTER RISK REDUCTION (CMDRR) APPROACH

B1.1 Outline of CMDRR Approach

CMDRR refers to a process in which a community is actively engaged in identifying, analysing, and evaluating disaster risks, with the aim of reducing people's vulnerability and enhancing their capacities. In a CMDRR process, the role of a development worker is to facilitate the community to carry out disaster risk assessment, draw a disaster risk reduction strategy, prepare a Disaster Risk Reduction (DRR) Community Action Plan (CAP) and finally assume responsibility for implementing the plan.

B1.2 Conceptual Framework underlying CMDRR

There are four basic concepts that underpin CMDRR: The first concept relates to disaster which refers to a serious disruption of the functioning of society. A disastrous event causes widespread human, material or environmental losses, which exceed the ability of affected communities to cope using their existing resources.

Hazard is the second concept which is defined as a potential event that could cause loss of life or damage to property or the environment. A hazard can either be man-made or natural.

The third concept is vulnerability which is the degree to which an area, people, physical structures or economic assets (collectively known as elements) are exposed to loss, injury or damage caused by the impact of a hazard. The degree of vulnerability depends on the type of hazard in question as well as the element at risk.

The final concept is capacity which refers to individual and collective strengths as well as resources that can be mobilized to allow individuals and communities to reduce disaster risk. Such capacities include capacity to prevent or mitigate a hazard as well as capacity for survivability of the individual and readiness (preparedness) of the community to confront the hazard.

The relationship among the four variables is formally expressed as:

$$\text{Disaster Risk} = \frac{\text{Hazard} \times \text{Vulnerability}}{\text{Capacity}}$$

In planning for DRR, the facilitator acts not as an agent of change, but as an agent of learning. In this connection, he/she guides the community through a sequence of steps aimed at:

- Assessing prevailing hazards facing the community
- Determining extent of the community's vulnerability
- Evaluating existing capacities within the community
- Analyzing overall disaster risk facing the community
- Formulating a strategy as well as CAP for DRR

In the context of disaster management, the CMDRR framework is regarded as offering new thinking (paradigm) since it aims at building resilient communities not only in terms of physical assets or secured livelihoods but also in terms of the community's will to survive. Overall procedures and key points in CMDRR workshop are shown in TableBB1.2.1.

B1.3 Good Practices of CMDRR Approach in the Drought Risk Reduction

ECHO initiated CMDRR approach in several interventions, and accumulates experiences of implementation of CMDRR in community activities. The followings are samples of such good practices:

a) Holistic / ecosystem Management and Village Community Banking (VICOBA) in Ileret

This intervention was implemented by VSF-Germany under the Improved Community Response to Drought III Project (ICRD III) funded by ECHO–RDD. Due to the CMDRR workshop the community members became aware present inadequate situation regarding rangeland, then decided to change their own way to sustainable way for sound land use and grazing practices. Through Pastoral Field School (PFS) activities, they have implemented the planned grazing practices. CMDRR also contributed to arouse self-reliance and entrepreneurship of community members, so that Village Community Banking (VICOBA) programme has been developed successfully in this area.

b) “Disaster-Risk-Reduction among pastoral communities in Karamoja and North Pokot in Kenya”

This project was conducted by NGO consortium (ACTED and others) from July 2010 to December 2011 under the fourth phase programme of ECHO Regional Drought Decision. The objective was to improve community drought resilience and local government drought management capacity.

In the project, they conducted Community Managed Disaster Risk Reduction (CMDRR) workshop in a total of 23 Karamojong and Pokot communities. The project then provided 5,000 Euro grants to each community to implement their action plans, allowing them to make tangible steps to reducing their vulnerability to drought. Each community was in charge of their grant, and prioritised which activities were most important to carry out within the available funds and then went on to do so, often supplementing the grant money with local material and labour contributions.

c) “Project in Funan-Qumbi and Turbi villages in Marsabit, Northern Kenya”

The project in Funan - Qumbi and Turbi villages was implemented by Cordaid with the funding by ECHO. This project is a good example of rural communities joining hands, overcoming tribal conflict, to lessen the impacts of drought. Through community participatory process, the two communities decided to collaborate on natural resource management with formulation of special agreement which realizes to promote sharing system of pasture and water across their territories, cushioning the drought effects at the onset of the drought.

B1.4 Application of CMDRR Approach in the ECoRAD Project

As strongly emphasized in the Hyogo Framework for Action (HFA), the participation of community is inevitable element in disaster risk reduction. In the Project, we also recognize significance of community participation for sustainability in enhancing drought resilience.

According to the “Community-Managed Disaster Risk Reduction: Investing in Resilience (Cordaid 2012)”, it indicates the effectiveness of CMDRR approach in drought prone area, saying “*communities trained in CMDRR are better able to cope with drought and those communities recognise the role of the CMDRR training and interventions in improving their resilience*”. Such effectiveness was also confirmed in the several good practices of the previous ECHO’s interventions as mentioned in the section above. Thus the Project decided to introduce CMDRR approach into the project formulation procedure to have successful community participation.

We especially expect the following effects by introducing CMDRR approach in the Project;

- The CMDRR approach can empower communities to take own initiatives to reduce the risks associated with hazards and disasters by extension. Working with the project teams and partners, communities could increasingly focus on rebuilding their lives through economic productivity rather than relying on relief.
- The Community Managed Disaster Risk Reduction (CMDRR) approach can evolve community as the partners shifted from emergency response to a more proactive systematic approach of preventing, mitigating and preparing for drought and other hazards.
- Through CMDRR process, the traditional custom, and system, such as early warning systems that ensured safety for communities and minimal loss of lives and property to hazards, can be introduced in the Project interventions. The traditional local knowledge of community members

also could be good hints for formulating interventions of livelihood diversification, such as indigenous plants/flower, mines, and animals which could be source of small business in communities.

CHAPTER B2. DISASTER RISK REDUCTION ASSESSMENT AND COMMUNITY ACTION PLANS IN THE SELECTED 9 COMMUNITIES IN MARSABIT

B2.1 CMDRR Workshop and Disaster Risk Reduction (DRR) Assessment

In the selected 9 communities, CMDRR workshops were carried out by the Project by contracting Local NGOs who were selected through competitive bidding. The disaster risk reduction assessment and CAPs in each community were then executed through CMDRR workshops facilitated by the contracted NGOs. Around 30-40 persons participated in each workshop. They comprised of community elders, administrative chiefs / sub-chiefs, women group leaders, youth group leaders and so on. Prepared CAPs are shown in Attachment B2-1.

Based on the CMDRR procedures, the community made self assessments with support from the facilitators. Following points could be pointed out through the observation by the project team in the CMDRR processes;

- In the hazard analysis, all the 9 communities selected “drought” as 1st priority hazard. And interestingly, as the 2nd priority, all the communities selected “tribal conflict”. It is confirmed that tribal conflicts is big issues for pastoralist as well as drought.
- The poor people, elderly, children and women were defined as more vulnerable groups to the hazards, such as drought, diseases.
- At formulation stage of CAP, most of the communities pointed out the necessity of water source development, such as water pan, borehole, rock catchment, and roof catchment.
- In terms of interventions for natural resource management, they mostly prefer to have a borehole with pump than a water pan. It was pointed out that, with a water pan, it would be difficult for community people to control user of the water pan. It means they were anxious about degradation of rangeland around a water pan, when a water pan attracts many livestock from outside.
- In the most of the workshops, several numbers of participants pointed out significance of conservation of environment. Such environmental element to be protected included not only rangeland and pastures which directly connects to their pastoral life but also trees and animals. It was observed that they were conscious of importance of environmental conservation apart from their direct benefit of lives.
- They mentioned that present pastoralists’ community coping mechanism against drought were; to migrate to better areas; sell their livestock; and slaughter the large stocks to supplement food at household levels.

B2.2 Selection of Sub-projects in Marsabit

B2.2.1 General

Based on the Action Plan formulated by the communities, sub-projects were selected. The Project considered about following points:

- Balances between tribal and areas in terms of number and size of the sub-projects should be carefully considered. It is basically avoided to concentrate many sub-projects in 1 community or 1 region,
- The locations of structures should be carefully selected from the view point of tribal or community conflict, not so as to create new source of the conflicts between communities, and,

- It is important to put a high priority on the requests or opinion for selecting sub-projects or sites. However the overall viewpoint is also very important, especially in the natural resource management. Because community will try to maximize his community's benefit, and this is not always lead the overall benefit for large area.
- As much as possible, the trial intervention with new experience or innovative approaches should be considered as sub-project.

After consideration and consultation with the communities, the following sub-projects were selected.

Table AB2.2.1 Selected Sub-projects

Community	Natural Resource Management	Livestock Value Chain	Livelihood Diversification
<u>Region-1</u>			
Turbi	- Water Pan: Soto Wesa (new)		
Kalacha		- Feedlot Program	- Salt Production Program - Goat Program
Hurri Hills	- Water Pan: Yaa Gala (Upgrade)		
Overall*	- Solar Pump System at strategic borehole: Shurr (rehab)		
<u>Region-2</u>			
Dirib Gombo	- Water Pan: Dololo Dokatu (New)	- Heifer Exchange Program	
Dakabaricha /Jirime		-- Heifer Exchange Program	- Poultry Program
Gar-Qarsa	- Water Pan: Dadacha Manchurre (New)		- Goat Program
Overall*	- Solar Pump System at strategic borehole: Kubi Qallo (rehab)		
<u>Region-3</u>			
Korr	- Solar Pump System at strategic borehole: Gobore (rehab)	- Heifer Exchange Program	
Arapal	- Pipeline System: Arapal (new)		- Goat Program
Ngurunit	- Rock Catchment: Lokchura (new)		- Gum & Resin Program

*: Thos are not located exactly in the pilot communities, but those benefit to the pilot communities

Source: JICA Project Team

Basic consideration and way of selection are shown in the following part.

B2.2.2 Natural Resource Management

(1) Selection Criteria and Selected Sub-Projects for Natural Resource Management

Pilot communities were selected mainly in terms of the conditions of natural resources, especially development potentials of water resources and rangeland. In these selected communities, CAPs were formulated, which proposed various interventions such as water pan, rock catchment, and so on. Their priorities were evaluated by communities and the Project during CMDRR. Subsequently, field inspection and evaluation of potential were conducted by the Project team, and decision of the sub-project location and type of intervention were further discussed.

During the selection of the type of intervention and their planning, the following conditions were also taken into consideration

- The sub-projects would widely cover various types of intervention in order to obtain information from lessons learnt for future intervention.
- The sub-projects would not include only new construction but also rehabilitation, improvement and upgrading.
- The sub-projects would not be only duplication of previous projects but introduce new or value added planning concept and/or design.
- The sub-projects would also target to collect useful data through monitoring after construction.

The following sub-projects were finally selected for natural resources management.

Table AB2.2.2 Sub-projects for Natural Resources Management

Community (District)	Present conditions	Proposed intervention under ECoRAD
Hurri Hills (Marsabit North)	<ul style="list-style-type: none"> - There is rich rangeland that is not fully utilized in dry season due to no permanent water source - There are some existing water pans, which are not properly maintained causing less storage capacity due to the siltation. 	Improvement of existing Yaa Gala water pan
Turbi (Marsabit North)	<ul style="list-style-type: none"> - There is rich rangeland that is not fully utilized in dry season due to no water point - There are some water pans and boreholes developed in and around Turbi Town, while far remote area in Gal Galu Plain remains undeveloped due to lack of access road. 	New construction of water pan at Soto Wesa with construction of temporary access road
Kalacha (Marsabit North)	<ul style="list-style-type: none"> - There is an irrigation system, which will be improved and utilized for livestock value chain 	Construction of feedlot
Dirib Gombo (Marsabit Central)	<ul style="list-style-type: none"> - Eastern side of Mt. Marsabit area has rich pasture, which is not utilized during the dry season due to no water point - There are some water pans and boreholes developed in and around Gar Qarsa Town, while far remote area in eastern side of Mt. Marsabit remains undeveloped due to lack of access road. 	New construction of water pan at Dololo Dukatu with construction of temporary access road
Dakabaricha/Jirime (Marsabit Central)	<ul style="list-style-type: none"> - Development potential for natural resource management is not high. 	-
Gar-Qarsa, (Marsabit Central)	-	New construction of water pan
Korr (Marsabit South)	<ul style="list-style-type: none"> - There some existing water pans, boreholes and wells. - There are rich rangeland in west middle & lower slopes of Marsabit highlands, but surface water development potential is not high. - Many existing pump systems of boreholes require rehabilitation 	Introduction of solar pump
Ngurunit (Marsabit South)	<ul style="list-style-type: none"> - There are many existing rock catchments, and high potential for farther development of rock catchment. - Villagers are facing serious water shortage. 	New construction of Lokuchura rock catchment
Arapal (Loiyangalani)	<ul style="list-style-type: none"> - Existing water supply pipeline system is used both for drinking water and livestock including from other communities. - Eastern slopes of Mt. Kulal highlands have rich grazing area. - Existing pipeline needs rehabilitation and improvement including capacity of discharge. 	Improvement of existing water supply pipeline system

Source: JICA Project Team

(2) Reasons of Selection**1) Water Pan:**

Locations of water pan were selected basically on the concept of the strategic distribution of water source as mentioned in Chapter 4. At first, candidates of good grazing areas were listed up or recommended by communities. Then the water availability in the recommended areas and trans-migratory routes was examined to justify whether those options were in our strategy or not. Through such process, 4 water pan sites, i.e. Soto Wesa, Dololo Dukatu, Dadach Man Churre, and Yaa Gala, were selected.

2) Pipeline and Rock Catchment:

Pipeline in Arapal and rock catchment in Lokuchura were selected based on the requests from communities. In addition to this, the Project considered the following point:

- It is said that Rendille tribe is traditionally not so familiar with management system of water pan. Thus introduction of complicated management system was not suitable for them.
- For making overall balance in the Project from the view point of diversifying type of water resource facilities, those 2 types of water facilities seemed adequate for implementation of the Project.

3) Installation of Solar pump system:

Due to the limitation of applicable range of the solar pump system, such as max 10 m³/h at 250m in depth, all the existing boreholes could not be options basically. Three strategic boreholes, Shurr, Jaldesa, and Kubi Qallo, were firstly examined as candidates. Since those 3 strategic boreholes had good potential for installation of solar pump system, Shurr and Kubi Qallo were selected. Jaldesa was not selected because the same community has Dololo Dokatu water pan near Jaldesa area. Gobore borehole in Korr is main borehole in Korr area which serve water not only human but also livestock. After consideration of vandalism, strength of management capability, and present condition of the existing facilities, the Gobore borehole was selected due to its significant role in Korr and adjacent area,

B2.2.3 Livestock Value Chain Improvement

For various reasons, the sub-project sites were selected. Those reasons are as mentioned below:

(1) Heifer Exchange Programme:

Heifer programme should be held at high potential place of livestock market. Especially location of market is so important for selection. In this context, Jirime Market was ideal because it located in middle of Marsabit Town. Dirib Gombo is located at the place between Marsabit Town and high potential livestock grazing areas. And road condition between Marsabit town and Dirib Gombo market is good condition always even in rainy season. Korr is known as livestock market center of Rendille people in rainy season. In Korr there is existing facilities and market committee.

(2) Feedlot Programme:

Feedlot programme need sufficient water for irrigating pasture. Due to huge amount of usage of water, borehole with pump is not adequate for this programme. Only spring can support feedlot programme. In this context, Kalacha with Kalacha spring has abundant water for irrigation. In addition, the community people currently operate irrigation system and cultivate pasture for their livestock. Those experiences must support the programme sufficiently.

B2.2.4 Livelihood Diversification

Sites and Components for livelihood diversification were selected based on the following criteria: request in CAP, market potential, and the availability of natural resources. Four components are identified as livelihood programs; each two is categorized into two different types of activities, that is to say, livestock utilization type and natural resource utilization type. The detail of each program is as follows;

(1) Livestock utilization type1: Chicken:

Location of chicken program was selected on the concept of the market potential. Marsabit town is the biggest market so that Dakabaricha/Jirime Location, which is also mentioned poultry keeping in their CAP, was selected as target location.

(2) Live stock utilization type2: Goat:

The goat is one of livestock that pastoralists in this area are likely to keep. Locations of goat the program were selected from places which were relatively remote with no big markets nearby so that other kind of activities are difficult to apply. Based on the concept, Kalacha, Gar Qarsa and Arapal were selected.

(3) Natural Resource utilization type 1: Gum, Resins and Honey:

Ngurunit is well known as honey production area and is also know of its potential of gum and resins production. Although the area is also remote and having difficulty of transportation and communication, there is still possibility of gum, resins and honey business.

(4) Natural Resource utilization type 2: Salt:

Chalbi dessert is well known of high salt contents and community people nearby has been conducted salt business although in very small scale. Kalacha was selected as target community and targeted Hurri hills as one of market potential area for salt business.

CHAPTER B3. DISASTER RISK REDUCTION ASSESSMENT AND COMMUNITY ACTION PLANS IN THE SELECTED 11 COMMUNITIES IN TURKANA

B3.1 CMDRR Workshop and Disaster Risk Reduction (DRR) Assessment

In the selected 11 communities, the Project team implemented the CMDRR workshops on contractual basis of 2 local NGOs who were selected through competitive tendering process. The 11 communities had the disaster risk reduction assessment and formulated community action plans (CAPs) through CMDRR workshops facilitated by the NGOs. Around 30-40 persons participated in each workshop, and they comprised of community elders, administrative chiefs/assistant chiefs, women group leaders, youth group leaders and so on.

To facilitate ownership of the community action plan, CAPs has 2 parts, (i) a plan with external financial support, and (ii) a plan without external financial support (with their own resources).

The followings are major observations by the project team during the CMDRR processes:

- In the hazard analysis, all the 10 communities, except Lopii community, selected “drought” as 1st priority hazard to be considered and most affect on village life. The Lopii community selected “insecurity” as their 1st prioritized hazard.
- As the 2nd priority, 11 communities selected “human diseases”, “livestock diseases”, “conflict/insecurity”.
- The poor people, elderly, children and women were defined as more vulnerable groups to the hazards, such as drought, diseases.

Major activities, in terms of the hazard of drought which were listed in CAPs

Table AB3.1.1 Major Activities in CAPs without External Financial Supports

Category	Items
Natural Resource Management	Afforestation, Planting trees and fodder crops
	Rehabilitation of non-functional water facilities in Eliye sub-location
	Desilting of existing water pan
Livestock	Buying and selling of Hides and skins
	Reporting disease cases to Veterinary department
Livelihood diversification	Buying and selling of hard core and ballast
	Charcoal burning and selling
	Fetching of firewood
	Merry-go-round (VICOBA) to youth and women groups
	Detergent making using aloe vera, Establishment of Aloe vera farm
	Poultry keeping
	Brick making
	dry land farming(kitchen gardening)
	Collection of green garnets
Construction of semi-permanent building for seminars and conferences	

Source: JICA Project Team

Table AB3.1.2 Major Activities in CAPs with External Financial Supports

Category	Items
Natural Resource Management	Drilling new borehole
	Rehabilitation of existing broken boreholes/hand-pumps
	New water pan and sand dam construction / rehabilitation of water pans
	Construction of pipeline system
	Reseeding of dry season grazing areas
	Capacity building of CMDRR committee
Livestock	Micro-credit support for several supports, such as for livestock marketing traders.
	Support to live stock trade and marketing to big towns
	Establishment of livestock veterinary drug store
	Establishment of livestock market at rural area for facilitating animal off-take
Livelihood diversification	Development of available irrigation scheme, such as drip irrigation, small-scale irrigation, etc.
	Micro-credit support for several supports, such as for small retail shops, etc.
	Establish basketry market, purchase 1 lorry for transportation of baskets and other hand craft
	Donation of speed boats, fishing nets, life saving jackets and fishing hooks to fishermen organized groups and provision of technical support (at Eliye only).

Source: JICA Project Team

All the CAPs which were formulated by the 11 communities were compiled and presented in Attachment B3-1.

B3.2 Selection of Sub-projects in Turkana

B3.2.1 General

Based on the Action Plan formulated by the communities, sub-projects were selected. The Project team considered following points:

- Balances of sub-counties, in terms of number and size of the pilot sub-projects, should be carefully considered. The Project team avoided to concentrate many pilot sub-projects in 1 community or 1 sub-county,
- It is important to put high priority on the requests from the communities for selecting pilot sub-projects. However overall view is also required to maximize county or regional benefit particularly in the natural resource management. Because community will try to maximize his community's benefit, and this is not always lead the overall or regional benefit in the county.

After consideration and consultation with the communities, the following sub-projects were selected.

Table AB3.2.1 Selected Sub-projects

District		Sub-locations:	Bore Hole @ 11 pilot communities	Bore holes, in/near pilot communities	Purpose of boreholes	Water Pan / Sand Dam	Solar system	Livestock Market Program	Livelihood Diversification Program
North	1	Milimatatu	○		W1	WP Rehab.		MT	
	2	Kangakipur	○		W1	SD Rehab.		MT	
				North1	H				
West	3	Loritit	○		D			MT	○
	4	Lokichoggio	○		D	WP Rehab.	○		
				West1	D	WP Rehab.			
				West2	W2				
				West3	W2				
Loima	5	Lokiriyama	○		D			MT	○
	6	Lorengkippi	○		D	WP New		MT	
				Loima1	H				
				Loima2	H				
Central	7	Eliye	○		W1			MT	○
	8	Kerio	○		W1			◎ New additional facilities	
				Central1	W1		○		
		Lodwar						○ Market linkage and revitalization	
South	9	Lochwang'tak	○		W1			MT	○
	10	Lokichar	○		W1		○	○ Market linkage and revitalization	
				South1	W1				
				South2	W1				
East	11	Lopii	○		H			MT	○

Note: W1 = for livestock for passing, and temporary grazing (development in wet season grazing area)

W2 = for expansion of rangeland for livestock with rich pasture in Dry season (development in wet season grazing area)

D = for livestock use with rich pasture in Dry season (development in dry season grazing area)

H = for human use in village

MT = Market Training to be conducted in CMDRR committee training & workshops

Source: JICA Project Team

Basic consideration and way of selection are shown in the following part, such as in Natural Resource Management (SectionB3.2.2), Livestock Value Chain Improvement (SectionB3.2.3), and Livelihood Diversification (SectionB3.2.4).

B3.2.2 Natural Resource Management

Pilot communities were selected mainly in terms of the conditions of natural resources, in particular, development potentials of water resources and rangeland. In these selected communities, CAPs were formulated, which propose various interventions such as boreholes, water pan, rock catchment, and so on. Their priorities were evaluated by communities and the Project during CMDRR. Subsequently, field inspection and evaluation of potential were conducted by the Project team, and decision of the sub-project location and type of intervention were further discussed.

During the selection of the type of intervention and their planning, the following conditions were also taken into consideration

- The pilot sub-projects should not include only new construction but also rehabilitation, improvement and upgrading.
- The pilot sub-projects should not be only duplication of previous projects but introduce new or value added planning concept and/or design, as much as possible.
- The pilot sub-projects should also target to collect useful data through monitoring after construction.
- The pilot sub-projects should be selected based on the present conditions, such as spatial distribution of water resources, conditions and locations of rich rangelands, livestock migratory route in normal dry season and drought spell.

(1) Livestock Migratory Routes and Rangeland in Turkana County

The migratory routes of the pastoralists in Turkana vary year by year mainly depending on rainfall situations, pasture conditions, density of other livestock, and any other factors. However major trends of migratory routes are roughly predictable, in particular movement in drought spell. Figure BB3.2.1 shows dry season grazing areas and migratory routes in normal dry season and a drought spell in Turkana County. As shown in Figure BB3.2.1, livestock will normally move to the dry season grazing areas, such as areas in hills, beside Turkana Lake, or along Turkwel River, in normal dry season. Then they move out to Uganda, or move to when they face drought for seeking rick pastures and water.

In order to consider functions and types of seasonal grazing areas in Turkana, the following table was compiled for the rangeland.

Table AB3.2.2 Type of Dry/Wet Season Grazing Area in Turkana and Marsabit

Type of Grazing Area (GA)	Pasture		Water Source		Places	Development Potential
	Wet season	Dry Season	Wet season	Dry Season		
Type-1a) Dry season GA	○	○	○	○	Areas in <u>Turkana</u> , like places near the Uganda borders	Developed (no potential)
Type-1b) Potential Dry season GA	○	○	○	△	Areas in <u>Turkana</u> near Uganda border, or Arapal in Marsabit	<u>High potential for the development.</u> Reliable water is required for development.
	Mountain area		<u>hand dug shallow well etc.</u>			
Type-1c) Dry season GA	△	△	○	○	Areas in <u>Marsabit</u> , like Shurr, Kubi Qallo, Bubisa, Jaldesa, etc	Developed. Pasture is exhausted and deteriorated so much.
	<u>Plain area (deteriorated)</u>		Borehole			
Type 2a) Wet season GA	○	×	○	×	Areas in <u>Turkana lowland</u> , like places near Lodwar town, etc	Cannot be developed. Pasture die and fall quickly, and the rangeland cannot be used in dry season.
	<u>Plain area (without standing hay in dry season)</u>		Standing water			
Type 2b) Wet season GA (Potential Dry season GA)	○	○	○	×	Areas in <u>Marsabit</u> , like Dololo Dukatu water pan, and Galgal plain	<u>High potential for the development.</u> Pasture (standing hay) can be used in dry season. But reliable water source is required.
	<u>Plain area (with standing hay in dry season)</u>		Standing water			
Type 2c) Wet season GA (Poor Dry season GA)	△	×	○	○	Areas in <u>Marsabit</u> , like Korr, Kargi, etc.	No potential for natural resources. If condition of “type-1c” has been long,
	<u>Plain area (deteriorated)</u>		Borehole			

Note: ○available, ×not available, △ available, but not mush

Source: JICA Project Team

In Marsabit, the Project mainly developed “Wet Season Grazing Area Type-2b” in the table above, because there is standing hay in dry season in several plains. However there is not so many areas of “Dry season Grazing Area Type-1b” in Marsabit, in particular within the target sub-counties of the Project. On the contrary, in Turkana, there is no “Grazing Area Type-2b”. However they have “Dry Season Grazing Area Type-1b” in mountain areas.

(2) Present Spatial Distribution of Water Sources in Turkana County

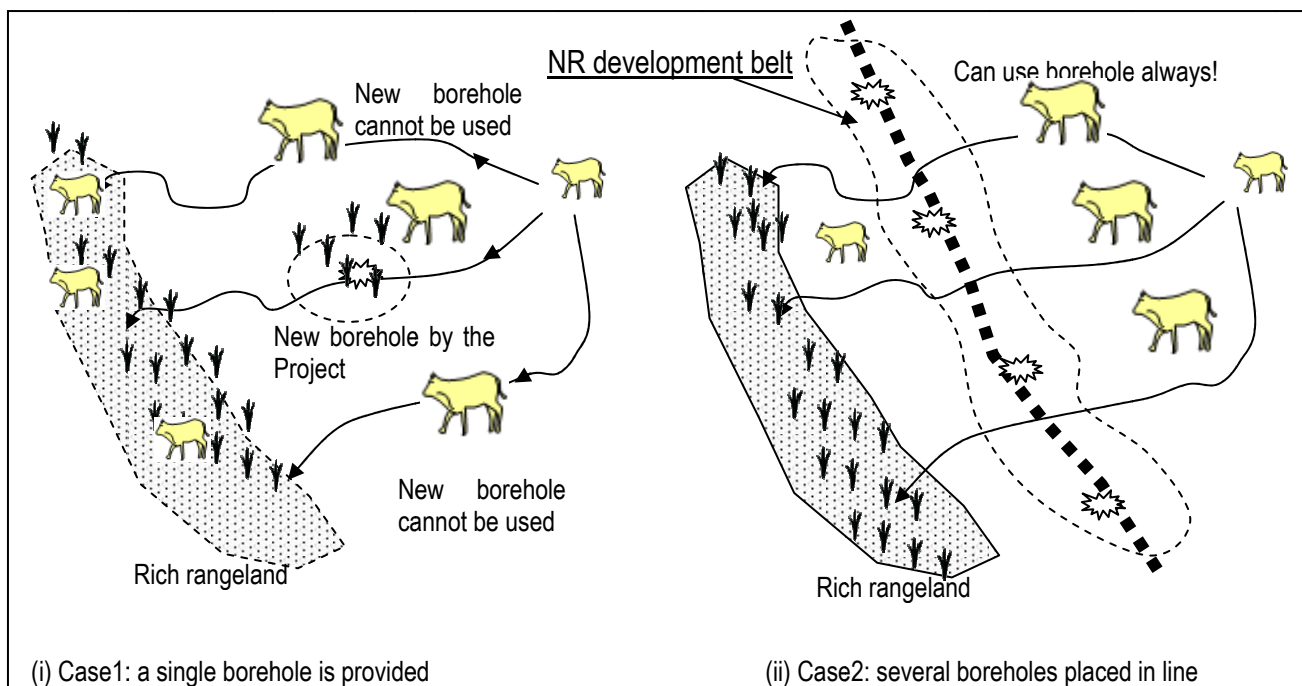
There are many boreholes and other water facilities in Turkana, its spatial distribution is quite imbalance. Figure BB3.2.2; shows locations of current functional boreholes in Turkana North, Turkana West and Loima sub-counties, on the image map of groundwater availability developed by UNESCO. Based on this figure, the following tendencies are observed:

- Most of the boreholes are located on or beside main roads. In particular, the following areas are developed well.
 - i) Area along the road from Lodwar to Lokichoggio via Kakuma,
 - ii) Area along the road from Lokitang to Kokuri,
 - iii) Area along the road from Gold to Kalemothia (Kibish), and
 - iv) Area along the road from Lodwar to Lokichar.
- These areas seem to be located in high potential areas of ground water, except the road from Lodwar to Lokichoggio. In addition, those areas are located near or in the migratory routes for normal dry season. Thus development of boreholes in the areas is suitable for supporting livestock mobility.
- Contrary to the above areas, as shown in the figure, boreholes along the road from Lodwar to Lokichoggio are not located in high water potential areas. Further developments of boreholes along the road consequently may become difficult in future. In addition, as shown in Figure BB3.2.1, areas along the road are not categorized as rich pasture areas. Thus it is not suitable to develop boreholes for facilitating livestock migratory activities in these areas.
- There are not so many boreholes and other water resource facilities in the areas where rich pasture is available. Because these areas are normally located in rural and remote areas, in which drilling works or construction works are difficult to execute. If these areas can be utilized effectively with adequate setting up of water sources, livestock mobility in those areas can be improved so much.

(3) Strategy for Setting Effective Water Sources

It is widely known that water source should be put at suitable locations, i.e. along the livestock migratory route, if intended for livestock’s improvement of drought resilience. However it is difficult to locate it in the correct locations. This is because the migratory routes are shifted year by year, and it is difficult to predict their movement in advance. Thus, if you provide only a single water source, this water source may not be effectively utilized by herders.

The Project team hence considered a concept of a combination of water points as *natural resource development belt (NR development belt, see the figure below)* where several water points lies in line beside rich rangeland.



Source: JICA Project Team

Figure AB3.2.1 Strategy of Boreholes in Line

If such *NR development belts* are strategically and adequately placed in line covering the migratory routes to rich rangeland, livestock on any routes can use water. Consequently, livestock mobility may be facilitated so much. Figure BB3.2.3 shows the proposed natural resource development belts (NR development belts) in Turkana in consideration of livestock migratory routes in normal and drought spell. These NR development belts are mainly classified as “Grazing Area-Type-1b” in the above Table AB3.2.2.

According to Figure BB3.2.2 and BB3.2.3, some of NR development belts are overlapping with the areas where they have developed boreholes and other water facilities.

Characteristics of NR development belts are described below:

Belt-A: Within high potential rangeland (Mogila range, Songot range, and Moru-Amgithiger Loima rane) with high groundwater potential (see Figure BB3.2.3). This area has not been developed in spite of the high potentials of natural resources. The Project put the highest priority on this area.

If a water source is provided in the area, a rangeland around the water source can be fully utilized by people and livestock as a significant dry season grazing area.

Belt-B: Beside high potential rangeland (Lapurr range, and Moru-Arith hills). As shown in Figure BB3.2.2, there are several boreholes which are used as water points for human being. Even though some water pans also has been constructed along main road, if a water source is developed in the area, this water source can effectively serve livestock as a temporarily water point when they move to the rangeland.

Belt-C: This area is located between Turkwel River and Kamutile range. According to the UNESCO hydro-geological data, there is high potential groundwater long the belt. As shown in Figure BB3.2.2, there are several boreholes along the rangeland.

If a water source is developed in the area, this water source can effectively serve livestock as temporarily water point when they move between the river and the range.

Belt-D: This area is located between Turkana Lake and Kamutile range.

If a water source is developed in the area, this water source can effectively serve livestock as temporally water point when they move between the lake and the range.

Belt-E: Within high potential rangeland (Moru-Amgithiger Loima rane) with high groundwater potential. This area has not been developed in spite of the high potentials. The Project put the highest priority on this area, due to poor traffic access.

If a water source is developed in the area, a rangeland around the water source can be fully utilized by people and livestock as a significant dry season grazing area.

(4) Selection of Water Resource Facilities

To select adequate project sites, the followings were considered:

- Water facilities should be located in adequate distance, as much as possible, to formulate a shape of the belt. A distance from an existing water facility is also considered not so as to overlap command areas,
- Groundwater potential should be carefully examined, with the existing potential map, results of sounding test, and any other available data & observation, in prior to decide the project sites,
- As repeatedly being pointed out in community development project, ownership of community is one of crucial point for sustainable use of water facilities. In order to establish firm ownership of the facilities, distance between the facility and community is set within a manageable range, such as 10-20km at most from community,
- Basically the Project intended to develop water resources for contributing to drought resilience especially in terms of livestock mobility and rangeland utilization. However, based on the communities' requests, development of new boreholes for human use were also accepted in some cases depending on site situations and other circumstance,

1) Boreholes

Initially the Project team selected 29 borehole sites, as first candidates, along or near the natural resource development belts based on the groundwater potential map, and site reconnaissance in parallel with selection of pilot communities.

Table AB3.2.3 Initial Proposed Sites for Drilling in Turkana County

Proposed No.	Site Name	Sublocation	Coordinate		Water Demand	Water Quality	Groundwater Potential
			Easting	Northing			
N-1	Milmatatu	Milmatatu	4° 8' 21.3"	35° 28' 09.8"	High	Fair	High (along "laggas")
N-2	Kangakipur	Kangakipur	4° 2' 05.5"	35° 29' 01.3"	High	Fair	High (along "laggas")
N-3	Kanakurudio	Kanakurudio	3° 47' 36.2"	35° 27' 53.9"	High	Not good	Fair (only along "laggas")
W-1	Lokichoggio	Lokichoggio	4° 12' 34.8"	34° 21' 19.0"	High	Generally good (Pollution by human activities)	High
W-2	Nakeruman	Lokariwon	4° 19' 47.6"	34° 18' 50.2"	Very High	No information	Fair (only along "laggas")
W-3	Nanam	Nanam	4° 12' 39.6"	34° 33' 32.0"	High	Good	Fair (only along "laggas")
W-4	Oropoi	Oropoi	3° 48' 43.1"	34° 21' 27.9"	High	Good	High
W-5	Loireng	Loireng	3° 31' 48.0"	34° 37' 59.5"	Very High	No information	High
W-6	Kakuma	Nadapal	3° 42' 33.0"	34° 51' 45.0"	High	Generally good (Quite different among wells)	High (along Tarach river)
W-7	Nakoros		3° 40' 06.9"	34° 48' 14.3"	High	Fair (Pollution by human activities)	Fair (only along "laggas")
C-1	Lodwar	Lodwar Town	3° 6' 57.8"	35° 35' 42.7"	High	Good	Very High
C-2	Napetet	Napetet	3° 7' 38.1"	35° 37' 14.0"	High	Good	Very High
C-3	Eliye Springs	Eliye	3° 14' 14.8"	36° 1' 19.8"	High	Fair (Spring) Good (BH)	Fair (only along "laggas")
C-4	Kerio	Kerio	3° 0' 07.9"	36° 3' 31.7"	Very High	Fair (lagga) Saline (groundwater)	High (water quality problem)
C-5	Nanyangakipi		3° 0' 02.0"	36° 0' 06.3"	High	Good	High (along "laggas")
C-6	Nakurio	Nakurio	2° 52' 17.8"	36° 9' 49.1"	High	Good (Underflow water from Kerio river)	High (only along Kerio river)
L-1	Turkwel	Turkwel	2° 54' 56.0"	35° 24' 07.0"	High	Good (slightly saline)	High
L-2	Lorugum	Lorugum	2° 52' 54.4"	35° 15' 01.7"	High	Not good in centre (saline) Other area is good	High
L-3	Lokiriama	Lokiriama	2° 45' 23.4"	34° 52' 35.7"	Very High	Fair	High (along "laggas")
L-4	Urum	Locher-Alomak	2° 57' 24.8"	34° 41' 49.4"	Very High	Good(lagga)	High (along "laggas")
L-5	Loirengipi	Loirengipi	2° 34' 22.2"	34° 59' 30.5"	Very High	Fair (Moderately saline and alkaline)	High (along "laggas")
S-1	Lokichar	Lokichar	2° 22' 40.7"	35° 38' 44.3"	High	Generally good (Change among locations)	High
S-2	Kalali		2° 19' 18.8"	35° 38' 38.0"			High (along "laggas")
S-3	Nagetei		2° 42' 27.1"	35° 38' 11.1"			High (along "laggas")
S-4	Karoge	Lochwangamatak	2° 33' 11.8"	35° 39' 16.8"	High	Good (On borehole drilled in 2012 is saline)	High (along "laggas")
S-5	Nagimanki	Napuosimoru	2° 37' 03.0"	35° 45' 03.0"	High	No information	Fair (only along "laggas")
S-6	Lomeleku	Loperot	2° 21' 58.8"	35° 58' 04.5"	High	Generally good	High (along "laggas")
E-1	Lopii	Lopii	2° 03' 30.4"	35° 52' 20.7"	High	Not good (saline)	Fair (only along "laggas")
E-2	Lokwamosing	Lokwamosing	2° 00' 00.2"	35° 56' 25.3"	Fair	Fair	High

Source: JICA Project Team

Subsequently, 26 sites for electric sounding test were determined through the results of CAPs, requests/opinions of communities, actual workability (difficulty of access to sites, groundwater potential, etc.), and other relevant factors. On those 26 sites, the Project team had electric sounding test in November-December 2013. The detail explanations of those electric sounding test and procedures of selection of 22 final borehole sites are described in Annex D. In total, final 22 borehole sites were selected including 2 lower priority sites which were selected as "stand-by sites" in case of any other boreholes fail to have water.

Table AB3.2.4 Final Drilling Sites in the Sub-project

Site No.	District	Site Name	Village Name	Site No.	District	Site Name	Village Name
1	North	Mulima tatu	Lokwakel	14	Loima	Lokiriama	Kakurumosing
2		Kangakipur	Ng'aikon	15		Urum	Lotilo
3		Kanakurdio	Kaituko	16		Lorengippi	Kalokutany
4	West	Lokichoggio	Natwol	17	South	Namoruputh	Kaidir
5		Nakeruman	Nakeruman	18		Kakali (Lokichar)	Kakali
6		Oropoi	Ng'asoge	19		Loreng(Lochwaa)	Loreng
7		Loreng	Nakalimon	20		Nakejuamosin	Nakejuamosin
8		Nakoros	Nakoros	21		Ng'imamki	Ng'imamki
9		Loritit	Kokorio	22	East	Lopii	Lopii
10	Central	Kang'irisae	Lomunyenyang				
11		Elive Springs	Nasiritei				
12		Kerio	Losagam				
13		Chokochok	Natirlulung				

Source: JICA Project Team

Those selected boreholes were basically located in the natural resource development belts A, B, C and D. Detail locations should be referred Figure BB3.2.3.

2) Subsurface Dam

Initially, as tentative candidate sites, 6 sites were proposed in Tarach River watershed before community action plan were formulated.

Table AB3.2.5 Proposed Sites for Subsurface Dam in Tarach River Watershed

No	Sublocation	Coordinate			Water Demand	Width (m)	Area (km ²)	Geology	Accessibility	
		Northing	Easting							
D-1	Nadapal	3° 42	33.9"	34° 51	01.5"	High	15	77	Consolidated sand	Very good
D-2	Kalobeyei	3° 45	07.8"	34° 43	47.8"	High	20	50	Consolidated sand	Very good
D-3	Loreng - Loritit	3° 32	43.7"	34° 48	15.2"	High	40	633	Consolidated sand	Fair 20km from Kakuma
D-4	Letea - Lokipoto	3° 17	29.8"	34° 40	27.4"	High	100	454	Consolidated sand	Not good 50km from Kakuma
D-5	Letea - Puch	3° 15	19.1"	34° 42	42.0"	High	20	1,559	Bedrock, Consolidated sand	Not good 57km form Kakuma 7km from D-4 on the "lagga"
D-6	Loreng	3° 31	44.0"	34° 38	01.9"	Very High	70	347	Bedrock, Consolidated sand	Fair 42km from Kakuma

Source: JICA Project Team

However it was found that the communities preferred to have boreholes in comparison with sand dam, and declined to construct sand dam in those areas. Following the opinions of the communities, the Project team decided not to construct sand dams in the Project.

3) Water Pans

Due to availability of rainfall, water pan development can be applied in NRM belt-A and B where annual rainfall is expected to be 400-600mm or more. In those areas, the following sites were identified based on the site survey and consultation with communities near the sites. Detail locations are given in Figure BB3.2.3.

Table AB3.2.6 Sub-projects for Natural Resources Management

Sub-location	Proposed Site	NRd belt	Type of Works
1 Milimatatu	Kabilikeret Water Pan	B	Desilting and expansion of storage capacity including upgrading of related facilities
2 Kangakipur	Nakipi Sand Dam	B	Rehabilitation of damaged portion of existing sand dam
3 Mogila (Lokichoggio)	Mogila Water Pan	A	Desilting and expansion of storage capacity including upgrading of related facilities
4 Nanam (Lokichoggio)	Nanam Water Pan	A	Desilting and expansion of storage capacity including upgrading of related facilities
5 Lorengkippi	Kaalale Water Pan	A	New construction of water pan, including silt trap and related facilities

Source: JICA Project Team

4) Introduction with Solar System

The purpose of this sub-project was to improve financial status of water distribution system with solar system, which includes solar modules, inverter controller, water and electric current meter, and other accessories. Basic conditions of this sub-project are as follows:

- The sub-project did not include development of borehole. Thus existing boreholes with good quality and quantity, and submergible pumps were required in good conditions. Old borehole or old equipment were not preferable,
- Maximum capacity the solar system can provide is 8-9 kW approximately. Adequate size of boreholes is required.
- Water fee collection was inevitable in the sub-project. The sub-project required water companies or service providers who were collecting water fee then as main management bodies,

Based on the above conditions, only the following companies and service provider were available in Turkana County. The Project team selected them as candidates of management bodies in the sub-project:

- Lodwar Water Service Company (LOWASCO) in Lodwar,
- Lokichoggio Water Service Provider (LOKIWASP) in Lokichoggio, and
- Lokichar Water Service Company (LOKIWASCO) in Lokichar.

Outline of the sub-project, sub-project target, plan of operation, and other details information should be referred to Annex D.

(5) Peace Building Activities in Turkana in terms of Natural Resource Management

As mentioned in the previous sections, the high potential areas for natural resource management activities are located near the border lines of Uganda, such as NR development belt-A, where ethnic conflicts arise prominently. To utilize the rangeland and the water resources effectively in such conflict areas, peace building is one of inevitable key issues. In this connection, the Project provided financial support and dispatched a delegation to “Lokiriyama Peace Accord Commemoration”, which took place at Lodwar and Lokiriyama on September 18-19, 2013 as a part of the International Day. Details of the peace accord can be referred to in Annex H.

The Project had strong intention to support such activities over the course of the project implementation.

B3.2.3 Livestock Value Chain

In planning a sub-project, based on the past survey, a workshop for the revitalization of livestock distribution in Turkana was held between major LMA officials of Lodwar, Lokichar, Kakuma and Kerio, officials of Lokichoggio LMA and Lokiriyama LMA with experience of cross border trade, large-scale traders for the Nairobi market, local traders (member of LMA), County Livestock Marketing Organization (CLMO) executives and government officials. In the final stages of the workshop, action plans were discussed among teams of each LMA and traders for achieving shared goals. As a result, a lot of actions plans were suggested as shown in the table below.

Table AB3.2.7 Proposed Activities and Selection Scoring for Livestock Market Vitalization

Objectives	Activities	LMAs						Scoring point (No. of LMA)
		Lokichoggio	Kakuma	Lodwar	Lokiriyama	Kerio	Lokichar	
•To enhance LMA operations (Record keeping, Reporting, etc.)	Capacity building of the local livestock trader (LMA members)	✓		✓	✓		✓	4
•To enhance external market linkage	Capacity building of the LMA executive (Information system, Business skill)	✓	✓	✓	✓	✓	✓	6
	Enhancement of market linkage and accessibility of market information system	✓						1
	Improving accessibility of the transportation	✓	✓			✓		3
	Reduce transportation risk and cost between Turkana to Nairobi (subsidy)			✓			✓	2
•To stimulate business activities	Forage development during dry season			✓		✓		2
•To develop new internal markets	Water development at slaughter house		✓					1
	Construction of slaughter house adapted a sanitary standard			✓			✓	2
	Purchase of livestock drugs and retraining of CAHWs					✓		1
	Improvement of livestock market infrastructure				✓			1
	Introduction of Livestock Purchase Fund (Revolving fund)	✓	✓	✓	✓		✓	5

Source: JICA Project Team

In the table above, activities with multiple check mark (✓) were suggested by a lot of LMAs. In activities for the **enhancement of cooperation with external markets including Nairobi**, “Capacity building of the LMA executive” has 6 points which is the highest, followed by “Improving accessibility of the transportation” with 3 points. Regarding **new business development within the internal market**, “Introduction of Livestock Purchase Fund” has the highest 5 points. Additionally, Capacity building of the livestock local trader has 4 points for the **enhancement of LMA management** while Forage development during dry season has 2 points for the **promotion of business activities**.

Although the 4 underlined activities are the first priorities, when it comes to the introduction of livestock purchase funds and so-called operational fund loans, the US African Development Fund has already loaned 1.5 million shillings to Lodwar and Lokichar LMA respectively as of 2 years ago, first the study team will start by learning the management situation of these funds.

To ensure sustainability, it is vital for traders not to depend on external funds but to save operating capital among present profits and expand the scale. As stated above, training will be the main activity in the sub-project for livestock distribution. Forage development during dry season mentioned in the promotion of business activities will be incorporated for the improvement of drought resilience.

As explained above, 1) Improvement of Kerio sale yard, 2) Training of livestock market linkage and vitalization, and 3) Development of reseeded plot are proposed as sub-projects in livestock value chain.

B3.2.4 Livelihood Diversification

A detailed examination will be shown later in Chapter 20, in general, the livelihood diversification program in Turkana focused on IGA (Income Generating Activities, means here small business activities), considered with relatively good infrastructure compared with Marsabit, and communities' opinion on this field studied by UNDP (refer to Annex G). In addition, there are commonly identified major livelihood measures in Turkana County, such as agriculture, fishery, weaving of mats and baskets, collection and sale of aloe, gum arabic, honey, wild fruits, firewood, production and sale of charcoal and alcohol, and processing and sale of skins and hides. Most of the above are influenced by spatial characteristics, namely resource availability. The 11 target sub locations have their own geographic conditions to define livelihood measures to some extent (see Table BB3.2.1).

The project took the CMDRR approach, and the drought management committees established through this approach prepared CAP. In this CAP in each sub location, plans related to livelihood measures are included (Table BB3.2.1). This voice from the target community people is also considered.

Finally, livelihood measures are by nature in general people-specific, and area-specific, therefore sub projects can be theoretically implemented in all 11 sub locations. In this sense, regional balance can be accommodated across the three programs in selecting sub project sites for the livelihood diversification program. In Central, South, and East, there are less sub projects in the other programs, and this can be considered in this program.

As a result to accommodate and consider the above four factors, in sum, namely 1) relatively good infrastructure and another donor's study = IGA, 2) spatial characteristics to define livelihood measures in 11 sub locations, 3) the opinions of the target community people shown in CAPs, and 4) regional balance in terms of across the three programs, the following five sub locations were selected as shown below:

Table AB3.2.8 Selected Five Sub Locations for Livelihood Diversification Program

District	Sub-locations:	Contents of Livelihood Activities for Sub-projects
West	LORITIT	IGA, Small scale rainfed agriculture
Loima	LOKIRIAMA	IGA, Dry meat
Central	ELIYE	Fishery
South	LOCHWANGAMATAK	IGA
East	LOPII	IGA

Source: JICA Project Team

Fishery in Eliye is unique livelihood measures specifically along with the Turkana Lake and communities' opinion to assist this measure is large. Small scale rain-fed agriculture cannot be implemented anywhere, but Loritit is one of the places because the Tarach River (though seasonal) flows in the proximity. Loima is the place where traditional processing of livestock product is being done. Other places, IGA is the one that they are exercising at a crude level. These activities are assisted by the project through trainings and mentoring activities to improve their current level, and their fundamental capacity to diversify livelihood measures is expected to be built by acquiring skills and knowledge.

CHAPTER B4. STRENGTHNING OF COMMUNITY DROUGHT MANAGEMENT COMMITTEE

B4.1 General Concept of Committee for Community Managed Disaster Risk Reduction

B4.1.1 Purpose of the Committee

The purpose of the committee is to contribute to enhance community resilience against drought in a certain community through collective action.

B4.1.2 Roles and Functions of the Committee

The committee must primarily serve as a kind of secretariat/umbrella committee in a community to deal with all issues related to drought. This committee must be the only one in a community for this function endorsed by chiefs and elders, who are generally decision makers. The committee shall coordinate with existing committees and groups which have their own fields of activities under authorization by community chiefs and elders for issues related to drought management. In case necessity arises to cope with drought as a whole community, the committee shall coordinate with e.g. water management committee for water issues and livestock market management committees for livestock issues.

In terms of harmonization, considered with GOK's policy to reactivate development committees which are supposed to deal with all development issues including drought management, the above mentioned proposed roles and functions of a drought management committee can be substantially the same as the one for development committees. Thus the name used on the ground for the committee is "Development Committee" and acts as a drought management committee as envisaged in the CMDRR approach in order to avoid confusion and duplication, and to be in line with the policy of the government.

The committee is encouraged to be registered under Gender and Social Services Department and obtain legal status to open bank account. This may not be substantially required considered with its coordinating function, but by doing so they can also be an entry point if donor agencies and GOK provide grant to do some projects for drought related issues. Such function cannot be denied. Even this committee can be an entry point for receiving relief food to distribute it to community members.

In addition, under the Project, a unit of 'community' from which a committee is formed and which one committee covers was decided to be an administrative unit of sub location.

B4.2 Situation on the Ground in Application of CMDRR Approach

CMDRR approach or similar approaches to build capacity of communities on enhancing resilience against drought have been adopted by several external aid agencies, in which a local institution, called 'Drought Management Committee', or with a similar name, is supposed to be established. Even relief aid projects form committees for distribution of their assistance. It was observed that people recognize such committees as 'a committee for a particular donor' that is expected to receive monetary benefit. Therefore once projects finish, these committees tend to become dormant and even dissolved. Moreover, there are cases that some NGOs and donors implement similar activities of CMDRR in the same locations/sub locations, leading to create confusion in communities. Therefore, it was required to re-establish the concept and functions of Drought Management Committee to avoid confusion as well as misperception by communities.

B4.2.1 Government Policy and Structure for Drought Related Management Committee

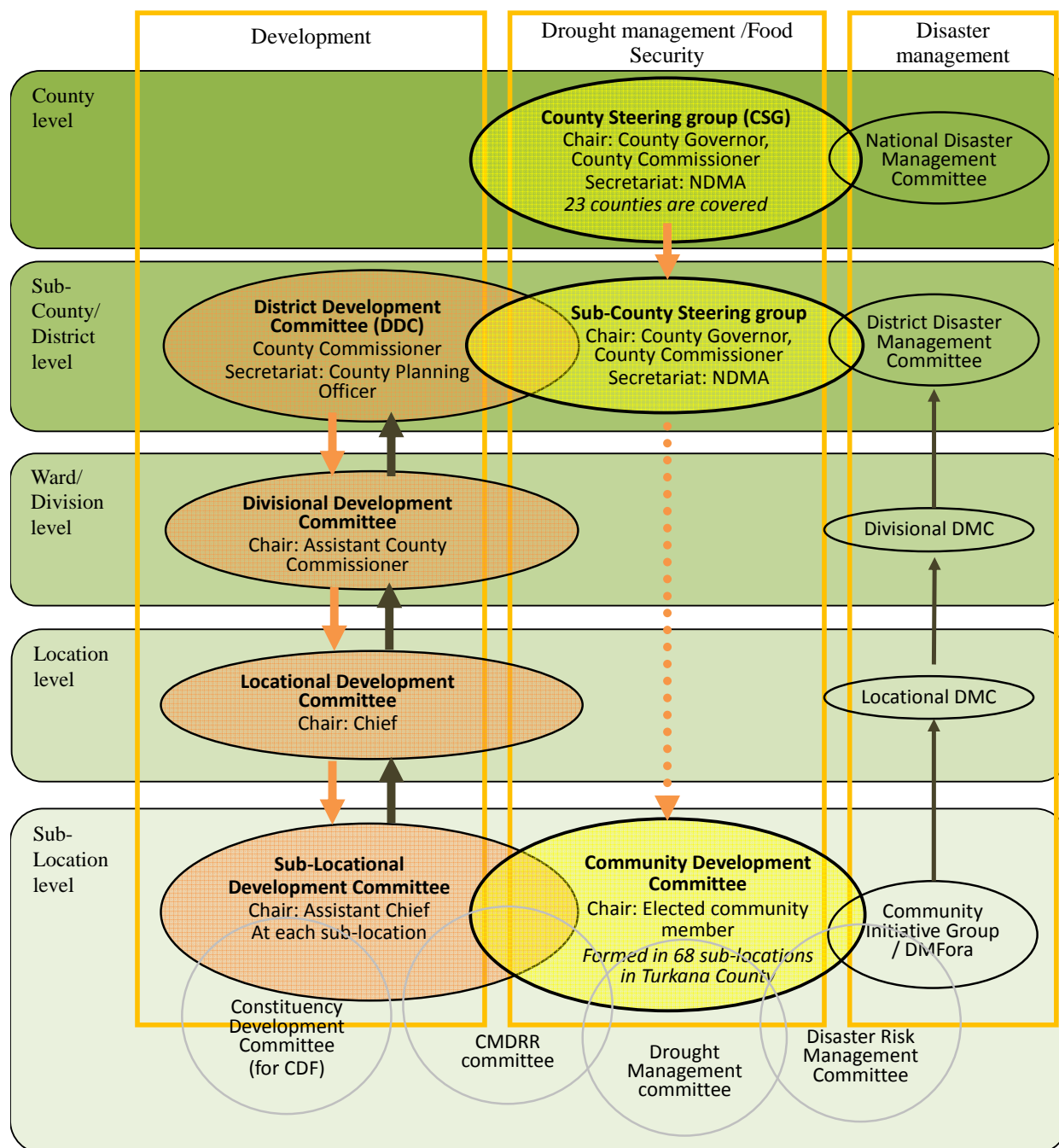
Decentralization initiative of Kenya has established a policy of District Focus for Rural Development (DFRD) in mid 1980s with an aim of shifting the development planning process from sector based top-down structure to participatory bottom-up approach. District Development Committees (DDCs) were formed as consultative coordination body to handle development issues among relevant stakeholders including representatives of the community. Development Committees were formed in

different administrative levels from districts down to sub locations. Lower level Development Committees (DCs) had also been taken as an entry point when GOK implements some development projects. Although there are DDCs still functioning, meeting regularly and preparing development plan, the DFRD structure was evaluated unsuccessful¹.

In Turkana County, DDC has not been identified functional currently. On the ground level, there has been sub-locational development committee for some time in the past, though it seems they have mostly disappeared. On the other hand, Steering Group established by NDMA though is replacing the District Development Committee in Turkana County. NDMA, through the former the Drought Management Directorate of the Arid Lands Resource Management Project (ALRMP), has also formed ground level coordination body of Community Development Committee (CDC). Through the ALRMP, 68 CDC have been formed and trained in Turkana County to date. Although some of them are getting dormant without continuous support, people recognize CDC in the area where they were established. Furthermore, in line with the Disaster Management Policy² under the former Ministry of state for special programme, it is supposed to form Disaster Management Committee at Location level with community initiative group / Disaster Management Fora under it. Even though Disaster Management Committees are regulated in the government policy, it was however observed that the scheme has not been existing in Turkana County. The following figure shows the structure of those three lines of drought related government institutions.

¹ Reference: Society of International Development 2009, Devolution in Kenya's new Constitution, Constitution Working Paper Series No. 4

² Currently under County government structure, there is the County Executive Committee in charge of Disaster Management in Turkana County.



Source: JICA Project Team

Figure AB4.2.1 Institutional Structure in Relation with Drought Management

Functions of those three lines of the government are identical even though there are differences. The following table summarise the institutions of the line of DDC and Steering groups of NDMA.

Table AB4.2.1 Features of Sectors of Development Committees and Food Security Steering Groups

	Development Committees	(Food Security) Steering Groups
Origin and Objectives	Development committees in each administrative level were established to make implementation of development programmes through bottom-up mechanism by raising issues from the sub-locational level to the district committee to discuss and allocate the funds.	Steering committees with initiative of NDMA were introduced only in Arid Land with original aims of drought management and food security (there are Kenya Food Security Meeting (KFSSM) and Kenya Food Security Steering Group (KFSSG) at the national level institution)
Position of the committee	Development committees are within the government system lead and chaired by provisional administrators, District Commissioner (current County Commissioner (Deputy County Commissioner)) at the District (County) level, District Officer (DO) at Divisional level, Chief at the Location level and Assistant Chief at the Sub-Location level.	Open forum of representations by the line ministries and relevant agencies, chaired by the County Governor and County Commissioner, covering 23 county in Arid Land area.
Responsible Department	District Development Office that was the secretariat of District Development Committee (DDC) was reformed into County Development Planning Office, thus the main responsibility slightly shift from general development to focus on development planning.	NDMA, the Secretariat of the County Steering committees, is a statutory body established under the State Corporations Act (Cap 446), but the Board of NDMA is appointed by Ministry of Devolution and Planning

Source: JICA Project Team

B4.2.2 Situation of Existing Committees and Groups in the Community

There are many committees and groups in communities with different mandate and activities. In most cases, these local institutions were established to handle particular technical issues or activities such as water management committees, livestock marketing management committees, and some IGA groups to conduct some business activities. Some were formed with their own initiatives, while many were introduced from outsiders. There are also committees established in a government schemes to handle issues of each line ministers, such as Environment Management Committee, School Management Committee, and Committee for health centre. In addition, external projects are establishing management committees for the project.

Situation regarding the committees of the above mentioned CMDRR related government structure varies on the ground. DCs were formed decades ago albeit none are currently active and many people are not even aware. CDCs with initiative of NDMA have been formed trained in 68 sub-locations in Turkana County. Most of the CDCs are registered and having bank account as a committee, even though some were left idle after the initial funds from the project finished. Regarding Disaster Management Committees, there has not been one identified on the ground at least in the target locations in Turkana County. Apart from the committees from those government lines, there are Drought Management Committees (DMC) in some areas established though external projects. Judging from the perception of the community in 11 selected sites, most of these committees were formed to implement activities of the projects with some funds provided, thus they got dormant after running out of the installed funds. A major activity of the existing drought management related committees seems to be implementation of particular economic or income generation activities, which could be intended to enhance self sustainability. It will be taken as CMDRR activities as long as these economic activities are to serve for majority of the communities in terms of drought resilience, such as cereal banking, water pan construction, goat restocking and rearing, veterinary drug shop. However, activities that are not to serve enhancement of resilience against drought for a good number of the community members, which include retail shops, tree planting/ environmental club, would not be considered enhancing resilience.

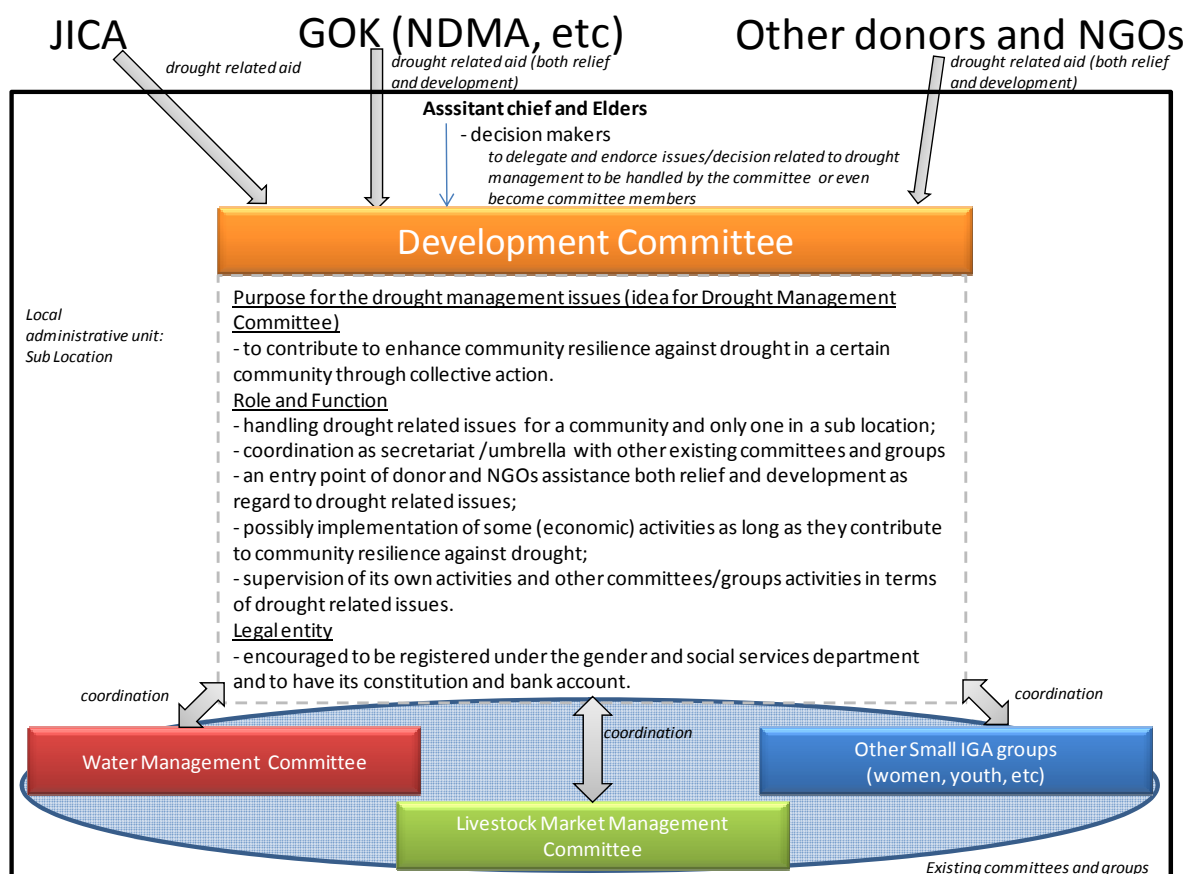
B4.3 Proposed Roles and Functions of the Ground Level Committee for CMDRR in the Project Based on the Analysis of the Situation of Target Areas.

The idea of the whole CMDRR approach is capacity building through participatory planning process in terms of drought resilience in the context of Northern Kenya. In this sense, a Drought Management Committees (DMCs) through the process are expected to serve this purpose.

It is necessary to have clear understanding on roles and functions of the DMC with relation to other current existing committees. Taking into account that new concept should not create any confusion to the current existence of committees and groups and be in line with GOK's policy, harmonization of existing committees is the most preferable and practical way in strengthening the committee for CMDRR. Since drought resilience include wide aspects of development, it was found appropriate to emphasize importance of coordination with other existing committees and groups as a function of DMC. The following function is proposed to the committees to manage CMDRR.

The committee is expected to primarily serve as a kind of secretariat/umbrella committee in a community to deal with all the drought related issues. It is preferable to have only one committee in a community for this function endorsed by chiefs and elders, who are in practice to coordinate and finalise decision of the community and are the administrative or traditional representative of the community. The committee shall collaborate with other existing committees and groups in implementation of each concerned activities such as water management committee for water resource development and livestock market management committees for livestock related issues.

The above role and function are illustrated in the figure below.



Source: JICA Project Team

Figure AB4.3.1 Concept and Functions of Committees for CMDRR

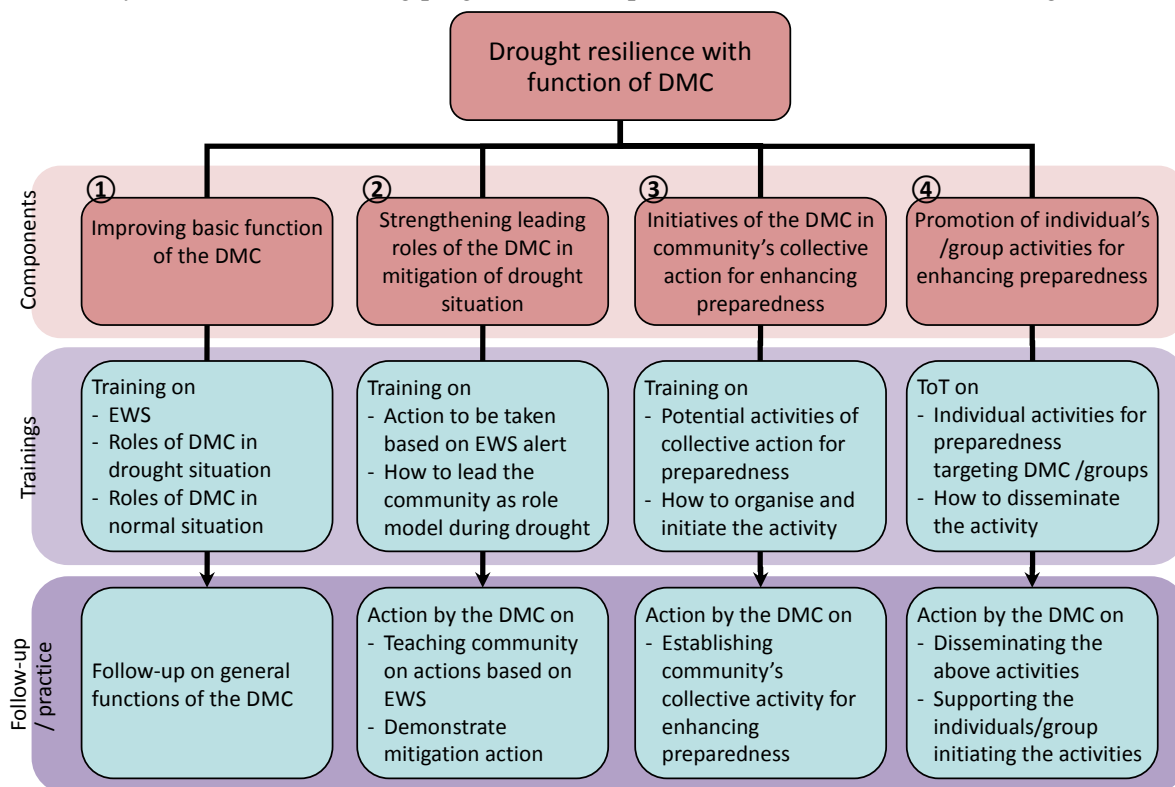
In terms of harmonization with GOK's policy as well as sustainability of the committee it is necessary to incorporate with the existing committees of the above mentioned government structure. Taking into account that actual existence and functionality of the committee in government structures differ in

different area, it is practical to revive the existing and accepted committee in the concerned area if there is any. And a new committee is to be formed in case there is no such committee existing in the area. In some areas the CDC formed under ALRMP will take charge of the above mentioned roles and function for CMDRR approach. Considering the situation there are similar committees existing with different name that can take the role of the committee for CMDRR approach, Drought Management Committee (DMC), in this report, shall indicate the committee that take charge of CMDRR activities, unless specified.

B4.4 Basic Approach to Strengthen DMC

After formation and a training of CMDRR conducted by the sub-contracted NGOs followed by a few follow-up visits by the NGO staffs, it was obvious that the committee shall become dormant if they are left without further intervention. Even though the DMC for CMDRR were selected in the community gathering, it was suspected that many of the selected members have idea of getting personal benefit from the project, considering the fact that there have been such situations in the past project. Therefore, it was found necessary to have continuous discussion and strategic approach to encourage the committee to be established as a representing body of the community to serve community resilience.

After CMDRR trainings conducted by the sub-contracted NGOs, a further series of programmes were planned and organised to encourage implementation of activities by the DMCs that contribute to enhancing resilience against drought. Taking into consideration that the communities have been experiencing one-off training to make plan without followed by actual implementation of activities, it was assessed that continuous intervention is crucial to develop foundation in the committee to work with their initiatives for the benefit of their own community. Trainings were organised to provide opportunities for the committee to think about their role and feasible activities with their effort through demonstration of different possible options for them to consider and choose, which will enable them to implement CAPs they planned in the CMDRR trainings with their initiatives. DMCs are expected to be a leading body to function for benefit of the community. It was emphasised in the intervention that skills and knowledge directly transferred to the committee members shall be disseminated to the community. Outline of the training programmes was planned as indicated in the below figure.



Source: JICA Project Team

Figure AB4.4.1 Conceptual Structure of DMC Development Supports

B4.5 Progress in Establishment of the Community Drought Management Committee

B4.5.1 DMC Training and Post Training Activities

Different approaches were adopted to promote practical actions to be taken by the committee in addition to capacity building of the committee itself. Since most of the committee members were expecting full support including financial and material input for their activities, a certain time was spared to discuss on what it was meant by ‘their own activities’, remarking that the project will only support technically the activities initiated by the community with their own effort. Topics that are familiar to the committee member who has been participating in the several different trainings were dealt in the training by connecting with their own situation for their own activities instead of information only to satisfy their curiosity and intelligence. Questions and requests raised from the participants were reverted back to the question to the participants to facilitate them to think and find their answers.

Box: Steps of activity development and Training programmes

Step 1. Training on basic functions of the DMC and Activities based on Early Warning System (EWS)

Session 1. Early Warning System and roles of DMC (Component 1)

- Early Warning System
- Roles and action to be taken based on the warnings by the EWS
- Roles of the DMC in the normal situation

Session 2. Technical trainings on actions to be taken for

- Mitigation of the drought situation with initiative of the DMC based on the warnings of the EWS (Component 2), and
- Community’s collective action to enhance preparedness (Component 3)

Step 2. Awareness raising of the community on the EWS and actions to be taken (Component 2), and

Trial of the Community’ s collective action to enhance preparedness (Component 3)

Step 3. Technical trainings on the actions to be taken by individuals/groups (targeting community groups involving the DMC members) during the normal situation or less severe situation (Component 4)

Three-day trainings were conducted for all the elected committee members from the 11 target sub-locations. The trainings were organised in three places allocating the target sub-location in geographical convenience. The summary of the trainings conducted is as follows.

Table AB4.5.1 Training Summary of DMC Development

Date	Training Venue	Target Sub-location	No. of Participants (completed)
5-7 December 2013	Lokichar	Lokichar, Lochwaa and Lopii/Kaaruko	26
9-11 December 2013	Kakuma	Loritit, Lokichoggio, Milima Tatu and Kangakipur	46
16-18 December 2013	Lodwar	Eliye ,Kerio, Lokiriama and Lorengkipi	49

Source: JICA Project Team

The training was conducted with participatory methods utilising visual materials and role plays in consideration of high rate of illiteracy. The training module can be referred in Attachment B4-1.

The contents of the training were as follows;

Table AB4.5.2 Training Schedule for DMC Development

Day 1
Session 1: Early Warning System and roles of Development Committee Early Warning System (EWS) Practical judgement of EWS and necessary action to be taken Drought mitigation at alert/alarm stage – general idea Roles of the Development Committee on EWS
Day 2
Session 2: Technical trainings on actions to be taken as the community for mitigation of drought situation and for enhancing preparedness as a community Early livestock off-take Enhancing preparedness (vaccination) Range land management and reseeded Collective action to enhance preparedness
Day 3
Session 2 continued, and Action Plan with demonstration of awareness raising for the community Preparation of demonstration of the selected action Presentation of the demonstration Action plan of activities to be initiated by the committee

Source: JICA Project Team

The main focus of the training was to encourage communities to take action at early stage introducing Early Warning System for drought management to improve preparedness for the drought and reduce damage from the drought. The emphasis was on what the committee can start with as a coordinating body of the community with their own initiatives and resources. With the attitude of the community that highly depends on external support, it seemed extremely tough for the committee to take their own actions. However, by combining the traditional ways of coping drought in the area, the actions to be taken at the early stage of the drought management cycle were well accepted by the participants and encouraged them to promote the actions in their community.

Results of the discussion made during the training on actions to be taken in each stage of EWS are as follows;

Table AB4.5.3 Discussion Results on Activities to be Done in Each Stage of EWS

EWS Stage	Normal	Alert	Alarm	Emergency
Situation	<ul style="list-style-type: none"> - Availability of water - Availability of pasture/forage - Food availability - Livestock/crop production is high 	<ul style="list-style-type: none"> - Reduced water level - Reduced pasture - Food access reduced 	<ul style="list-style-type: none"> - Drying of pasture - Water scarcity - Shortage of food 	<ul style="list-style-type: none"> - Death of people/livestock - Drying of water sources.
Activities to be done in every stage	<ul style="list-style-type: none"> - Deworming /vaccination of livestock - Restocking - Planting of fodder/reseeding - Planting of crops - Rangeland management - Fattening of livestock through castration 	<ul style="list-style-type: none"> - Cereal banking - Early livestock off take - Fodder storage - Digging of traditional well - Cross boarder peace negotiation for grazing area 	<ul style="list-style-type: none"> - Migration - Venture into business activities 	<ul style="list-style-type: none"> - Nothing can be done by individuals here preparedness is done in the first two stages to prevent running into emergency

Source: JICA Project Team (based on the discussion with training participants)



Source: JICA Project Team

Figure AB4.5.1 Presentation and Group Work in the Trainings for DMC Members

Aid dependency strongly affected at the beginning of the training raising harsh demands on monetary benefits for the participants and the committees. However, the constant explanation on project purpose and policy emphasising the importance of community initiative and self reliance to fight against drought was understood by a part of participants who convinced other participants as well. Acceptances of the participants were revealed through their actual action taken after the training.

To change mind of the committee members of one-off training without actual actions, feasible action plans were prepared at the end of the trainings. The action plans are for the committee to implement immediately after the training in consideration of the role of the committee. Even though specific activities to be done in the community for drought resilience was prepared the ‘CAPs without external support’ during the CMDRR workshops, it was judged necessary for the committee to take another step to prepare themselves to organise those actions mentioned in the CAP, making them realise that the plan is not for donors but theirs and to be implemented by themselves. The action plan was intended to fill that gap between planned activities in the CAP and readiness and capacity of the committee. Action plans were developed emphasising what is necessary to develop initiative of the community and to equip the community with necessary awareness and understanding, as well as what the committees can take as immediate action fully with their own initiative and their resources even if it is small.

B4.5.2 Actions Taken by the Committees After the Training

Bearing in mind that most of the committee members are used to take action even their regular meetings only when they receive funds, it was stressed during the training to start with a small activities with their own initiative and resources within coming 2 to 3 months. Most of the committee came up with their plan to start with sensitization of the community with knowledge they have learnt through the training to raise awareness on EWS emphasising importance of actions to be taken at early stage of drought. Other activities proposed by the committee are formation of sub-committees for specific activities such as water management and rangeland management, strengthening coordination function of the DMC by sharing information with other existing committees and groups. Activities related to drought resilience were selected based on the feasibility in the community considering other factors such as availability of suitable plot for reseeded, conflict situation for rangeland management, and market availability for animal off take. The committee took initiative to implement their plan and all except one sub-location have been implementing the activities. A summary of the actions planned by the committees and progress of actual implementation are attached as Table BB4.5.1.

Above mentioned activities were planned and organised by initiative of the committee. The project team was invited as an observer to the activities arranged by the committees. The programmes of the activities were prepared by the committee and conducted by the committee members utilising the skills and knowledge acquired during the training. The activities were carried out even without the

existence of the project team. Over a hundred of people have been participating in the meeting in many of the cases, which explain the relationship between the DMC and the committee as well as mobilisation ability of the committee. Some committees took a step to organise their sub-committees such as water management committee and rangeland management committee, coordinating other existing groups in the area to work together.



Source: JICA Project Team

Figure AB4.5.2 DMC Members Teaching about EWS to the Community

B4.5.3 Activities for Drought Resilience by the Community

(1) Potential Activities to be Conducted by the Community

As the consecutive step, the project supported activities of the community for drought resilience. Selection of activities target communities were decided based on the initiatives and motivation of the DMC and actual action taken by the community, as well as the action plan by the DMC, CMRDD Community Action Plan without external support, and actual potential and capacity of the community. Fundamentally, the community where actions with their own initiative are observed are supported for a step forward with actual activities.

Reseeding of pasture and animal early off-take were supported as activities for drought resilience that can be done by the communities based on the willingness of the communities and feasibility of the activity.

1) Reseeding

Reseeding was judged as one of the effective drought mitigation activities. As it has been analysed that the most vulnerable with drought effects are semi-settled household mostly women, children and elders, who remain at the settlement while young men take their livestock to graze in far areas. Majority of those semi-settled people highly depends on a small number of livestock left for milking. Reseeding and stocking of pasture will considerably helpful to feed those livestock kept at semi-settled maniyatta during drought period, which in consequence, enhance resilience of semi-settled vulnerable people. Furthermore, it can support in improving marketing potential of livestock. During normal year, without drought, the cultivated fodders can be used to feed emaciated livestock during dry season for a certain period to make it fat so that it can be sold with higher price.

2) Early animal off-take

Early animal off-take has been recognised as an important element that contributes to drought resilience by donor agencies. However, neither major improvement nor success has been reported so far. The main difficulties seem to be mindset of people and marketing opportunities. The intervention in dealing of livestock can be controversial as it is highly rooted in their tradition and

culture of their life. On the other hand, it can be taken as a potential for change of their mind as their life changes in socio-economic and environmental shifts currently occurring in the area. Although it should require persisting effort and change in societal environment to make early off-take work, it might be necessary change that should be started and pushed forward. The project supports to move it forward judging from the situation where some people recognise the importance and try to take action on it.

(2) Practice of reseeded and Animal early off-take through DMC/DC

The sub-locations that took their step on the regarding issue by organising meeting with the community to discuss, forming sub-committees to handle the activity, or carrying out basic preparations for the activities, were supported further in consideration of their potential in terms of environment. The communities with high interest on rangeland management decided to start reseeded activities to cultivate pasture. Lokichoggio, Loritit, Lopii, and Kangakipur started preparing the reseeded site. Reflecting their initiative, the project organised a training program on reseeded for those four sub-locations, which includes an exposure visit to a successful reseeded site and technical training of reseeded. In Lokichoggio sub-location, the DMC took initiative and encouraged farmers group of more than 100 members who have been working as farming organisation in the sub-location to start reseeded activity. The members apportioned the land and saw seeds through the technical training with support of seeds from Ministry of livestock. Loritit people discussed and decided to use a part of land from the farming land. In Kangakipur, DMC encouraged people who are interested in to start in individual land instead of making as common activities. The progresses of reseeded activities have been highly influenced by rain. During long rain, a part of Kangakipur received rain and some land in the individual house had germination. In the short rain of November to December 2014, Loritit received rain good enough for the pasture to germinate, though Loritit faced problem of management of the germinated pasture this time.

The communities that have shown high interest on animal-early off-take were further supported with detail practical trainings. The training was conducted in Kangakipur, Lokiriam, Loritit, and Kerio sub-locations. Those sub-locations were selected for support in consideration of their initiative and interest as well as marketing potential in the area. Kangakipur has voluntarily formed Livestock Management Authority to work as local buyers who collect livestock in village to take them to sell in the bigger market. Moreover, the formed LMA established a temporary livestock sales yard by apportioning and fencing the yard with their own effort. Training on early animal off-take was conducted in each selected sub-location in June and July. The committees, after the trainings, fed back to the community to share the information of early off-take to encourage the community to take action.

B4.5.4 Roles of the DMC as Umbrella Organisation

Since the initiative of early animal off-take is highly influenced by the factors of market system, the DMCs plans and acts in cooperation with livestock market association (LMA), local buyers and markets. Collaborations and division of roles between those stakeholders have been observed. Kangakipur newly formed LMA and established sales yard where local producers bring their livestock to sell to the local buyers and keep them for a while to accumulate the number of livestock to be taken to a larger market. Kangakipur LMA with local buyers contacts with the market people in Kakuma, the major market in the area, to get market information. In Loritit, a youth group is working for livestock marketing playing roles of local buyers who collect livestock from producers in villages and sell in major markets. The youth group representatives were trained on early animal off-take together with DMC. The youth group was trained on the marketing by the project, as a part of livelihood improvement activity, where representatives of DMC as well as range land management committee participated to seek cooperation in improvement of livestock management. Kerio, taking advantage of the periodical market in the area, collaborates with the formally registered LMA to encourage people to practice animal off-take. This can solve the problem of marketing that is one of the crucial factors in early animal off-take. These emerging situations imply possibility of DMC to work as umbrella organisation, coordinating other groups and committees in the area to achieve effective implementation of activities to improve preparedness of drought.

DMC has been playing an important role in water resource development. The project consulted the DMCs to discuss with the community. Decision making in the community for water resource development in each community was coordinated by the DMC, where it is available³. There are some cases where DMC played critical roles in some decision making of the community. In some community where the project supported borehole development, some resistance occurred from particular person in the community and people struggled to move forward. The DMC of the concerned area managed to facilitate in making consensus in the community.

B4.6 Survey on the DMC for Drought Resilience

To assess possibility of community drought resilience through DMC, an internal study was conducted in the pilot sites, based on the experiences of the project applying the concept of community drought resilience. Impacts of the drought management and DMC related activities through the project were surveyed based on the factors that shall contribute to enhancement of community drought resilience. Aspects that determine community resilience were identified as resources, capacity of people and network/social relationship. Resources include economic resources, natural resources and social infrastructure that are necessary infrastructural base to build resilience. Capacity of people is a fundamental determinant factor for managing resilience in sustainable and self reliant manner. Improvement in network and social relation shall determine how resilience can be strengthened as a community. Indicators on community resilience were categorised as following Table AB4.6.1, based on which assessment of the community resilience through the project shall be carried out. The outline of the survey with indices of the community resilience can be summarised as per attached as Table BB4.6.1

³ Not all the water resources supported through the project is in the 11 target community where DMCs were formed. For the water resources outside the project target communities, consultation was made if there are existing DMC or any similar committee.

Table AB4.6.1 Indicators for Improvement of Community Resilience Assessment

Indicators	Assessment
1. Resources: Improvement in resource availability	
Economic resources / development (capital, infrastructure, etc)	
- Vulnerability to hazards	Increase in means and opportunity to deal with difficulties (capacity should be included in the No.2 part)
- Level and diversity of economic resources / income resources	Increase of assets / financial capital, Diversification of income sources,
- Equity of resource distribution	Information flow and social structure of resource distribution
- Access to economic resources	Availability of economic infrastructure Improvement in access to economic transaction
Social infrastructure	Improvement of educational opportunity (including non-formal and informal educational opportunities) Improvement of health situation Improvement of formal education
Natural resources	Improvement of access to natural resources, Increase of amount of available natural resources, Better management of natural resources Indirect impact of improvement of natural resources availability
2. Capacity of people	
Human resources	Existence of leaders
Capacity to identify risks and solution	Experience / episode on identification of any community issue / problem (as drought risk is limited during the project period)
Capacity in mobilisation of resources,	Resources utilised for community development and drought mitigation
Capacity to address the identified issue with their own resources and with external resources	Experience / episode on handling of any community issue / problem (as drought risk is limited during the project period)
Capacity to utilise and apply knowledge and skills	Application of the knowledge and skills learnt through trainings (not limiting to ECoRAD trainings)
3. Network / social relationship	
Community action	Episodes of collective activities taken as a community
Organisational linkage and cooperation	Organisation and function of the DMC/DC and other stakeholders

Source: JICA Project Team

Other influencing factors shall be taken into consideration in evaluation of the community resilience, which are not direct elements of resilience but that influence the enhancement of the above mentioned aspects of community resilience. The influencing factors include community structure that might be identical in the target area, external influences, and existing social capitals/social networks that can be taken as precondition to be considered. The following indicate the influencing factors to be taken into account.

Table AB4.6.2 Influencing Factors in Enhancement of Community Resilience

Category	Factors
1. Community structure	<ul style="list-style-type: none"> - Tribal mixture, uniform society - Traditional social structure - Relation between traditional structure and introduced modern structure
2. Existing situation	<ul style="list-style-type: none"> - Economic and social infrastructure - Level of development of the town/settlement - Educational level
3. External influence	<ul style="list-style-type: none"> - Administrative structure and political influence - External support - Macro level (wider area) development
4. Social capital / network / social relationship	<ul style="list-style-type: none"> - Social support - Social embeddedness (informal ties) - Citizen participation, leadership and roles (formal ties) - Sense of community - Attachment to place

Source: JICA Project Team

The above information shall be collected through semi-structure interviews as well as from the accumulated experiences observation during the project implementation. Semi-structured questionnaire interviews were conducted in each pilot area mainly to assess functions of DMC/CDC to be evaluated as a part of drought resilience potential. Three target groups were selected for different purpose of the information. Key informant interviews were conducted to acquire general information of the area. Samples were selected by simple random sampling with the following criteria.

Table AB4.6.3 Outline of Study Sampling

Target group	Sample population (Inclusion /exclusion criteria)	Sample size:
<u>Committee</u>	DMC committee members of the target sub-location	5~6 per sub-location
<u>Community</u>	Community members of the target sub-location in consideration of <ul style="list-style-type: none"> - Geographical balance (balance among the consisting villages) - Gender balance - Balance in economic status - Balance in settlement status Exclusion criteria <ul style="list-style-type: none"> - DMC committee members 	10~12per sub-location
<u>Key informant</u>	Community leaders who knows general information of the community	2 per sub-location

Source: JICA Project Team

A separate questionnaire was prepared for each target group. Due to high illiteracy in the target area, the questionnaire survey was conducted through individual interview by the project staffs. Summary of the actual sampling is summarized below. It is noted that the survey in Lopii sub-location was not conducted due to insecurity around the area during the survey period.

Table AB4.6.4 Study Sample for Community Resilience Assessment

	Lokichoggio	Loritit	Milimatatu	Kangakipur	Lokiriama	Lorengkipi	Eliye	Kerio	Lochwaangi-kamatak	Lokichar
Community	10	10	8	10	12	12	11	12	12	12
DMC	5	3	4	4	5	5	4	5	5	3
Key informant	2	2	2	2	2	2	2	2	2	2

Source: JICA Project Team

The result of the questionnaire survey is to be assessed with qualitative and quantitative analysis. Aggregate analysis was carried out through coding of the answers mainly for comparison between sub-locations. It should be noted that the aggregate analysis shall not be statistically significant due to small number of samples. However, the result of the quantitative analysis shall be applied and assessed qualitatively together with other information. The result is summarised in Attachment B4-3.

The quantitative results of the study indicate that the recognition of DMC/CDC has been well prevailing with a certain level of understanding on their roles. Actual activities initiated and handled by DMC/CDC highly depend on availability of external supports, while many of the DMC/CDCs have made effort on training community without any funding sources. It seems that existing social structure and social relations also influence functions of DMC/CDC. In some communities, DMC/CDCs have playing their role of umbrella organization in the community and entry point of the external organisations. However, every DMC/CDC face several difficulty in sustaining functions of the committee, expecting further support from external agencies as well as community leaders. With regard to activities for drought resilience, individual activities prevail with traditional knowledge and practice while a few activities introduced by the project and other external agencies have been practiced. Communal activities for drought resilience are not yet well established apart from rangeland management. Considering their habit of communal activities limited within the clan, communal activities with participation of the community exceeding boundary of clans seems to take time to be adopted.

B4.7 Conclusion, and Lessons Learned

Through the interview survey, it can be said that, recognition of the DMC by the community is high in general. Activeness and functions of the DMC highly depends on the existence of development activities and types of the activities. Judgement of the functions and effectiveness of the DMC is complicated as they are influenced by several different issues such as traditional system, their culture, past experiences of the development project, community's acceptance, attitude of people, educational level, social relationship of the people, influence of administrative and political power and so force. Analysis of influencing factors on the CMDRR and DMC function, lessons learnt and recommendations are compiled in the Guideline.

Tables

Table BB1.2.1 Process of Preparing CMDRR Plan

CMDRR Stages	Summary of activities		Expected out-comes
1.Entry into the community	Collecting pre-entry information on community on tradition, culture, way of life and local governance structures (formal &informal)		Smooth and positive reception by host community
2.Maintaining purposeful relationship with community	Having strategic communication with different interest groups within community and avoiding partisan stands on sensitive issues		Community's commitment to engage with external development workers
3.Participatory Community Risk Assessment	Hazard	Brainstorming & characterizing major hazards facing community	Hazards characterized and ranked on basis of impacts
	Vulnerability	Identifying elements at risk from the hazard and determining degree of vulnerability	Susceptibility of elements/groups at risk prioritized
	Capacity	Analysing existing capacities for addressing hazard as well as vulnerability to hazard	Capacity gaps and necessary measures for coping with identified disaster risks identified
4.Spotting & development of community leaders/organizers from whom a core group is selected	-Compiling a tentative list of formal and informal community-based leaders with representation from all groups of the community -Assigning, in turn, responsibilities for co-facilitating CMDRR process to spotted leaders -Supporting formation of core group from pool of spotted leaders		A core group of community-based leaders with potential for assisting in CMDRR process
5.Development of DRR Strategy	Identifying and prioritizing different ways (strategies) of realizing necessary measures for bridging capacity gaps for DRR including setting up a a community organization		A prioritized list of strategies to be pursued
6.Community DRR action planning for risk reduction measures	Making strategy-specific needs assessments; converting needs into objectives and indicating action for each: what, where, who, when and how?		A DRR Community Action Plan (CAP)
7.Organized community reflection regarding their CAP	Community engaging in quiet moment of reflection and evaluation (praxis) on the Action Plan and its implications		Energised community committed to pursue DRR objectives
8.Guidance and support for managing people's organization	-Training in leadership, organization, group dynamics, management and operational skills -Technical and financial support		A strong and cohesive Community organization able to drive CMDRR process
9.Participatory monitoring, evaluation and learning (PMEL)	-Identifying DRR activities and objectives to be monitored -Defining procedures for evaluation & learning		System for monitoring, evaluation and learning in place
10.Community's organization gradually assuming full responsibility for DRR through Phase Over	Training leaders of Community's organization on CMDRR procedures, as well as on operation and maintenance of any developed or enhanced assets		An organization with the capability to facilitate a CMDRR and sustainably implement future DRR action plans

Source) JICA Project Team

Table BB3.2.1 General Socio Economic Condition in Target 11 Sub Locations

No.	Sub-locations:	Population Area (km2), Pop. Dens.	General Condition Surrounding the Sites	Main Livelihood
1	MILIMATATU (Location: YAPAKUNO Division: KALENG)	Population: 4,622 Area: 860 Pop Dens: 5	Mobile phone: n.a. Electricity: n.a. (some solar panels) Nearest economic center: Kakuma and Lodwar Transportation: once in two to three weeks Around 2 hrs from the junction of the main road Local resource: green garnet (they can not utilized fully) Hills are near	<u>Main Livelihood</u> 1. Pastoralist Shoats: 100-200/HH Camel: 5~8-10/HH Donkey: 4~6-7/HH Poultry: not common (5-10/HH) 2. Relief once a year: GOK two to four a year: donors sorghum, maize flower 3. Eating wild fruits local consumption 4. Charcoal burning ksh300/50kg bag, Ksh 600/90kg-bag, selling to lorry trucks 5. Aloe vera collect sap in Morueris hill (25km away) Ksh 1000/20l-container, 500/ 10l-contrainer, 250/5l-container 2 days in rainy seasons, 4-5 days in dry seasons to tap to 20l, sell to Somali people (1 in town, others near collecting point) 6. Fire wood 7. Casual work some construction
2	KANGAKIPUR (Location: KAERIS Division: KALENG)	Population: 2,407 Area: 344 Pop Dens: 7	Mobile phone: n.a. (spots up hill) Electricity: n.a. (some solar panels) Nearest economic center: Makutano (junction of the main road, 70 km away from this sub location) Transportation: no regular matatu, bus. Use lorries passing by between Lokitaung and Lodwar once in a week. Hills are near	<u>Main Livelihood</u> 1. Pastoralist Shoats: 30-50~200/HH Camel: 4-5~60-70/HH Donkey: 3~6/HH Cow: not common (6/HH) 2. Small scale business retail shop (buy food in Lodwar and Kakuma and sell to local residents and people passing by) 3. Aloe vera collect sap in Morueris hill (9-10km away) Ksh 1000~1200/20l-container, 600/ 10l-contrainer 2 days in rainy seasons, 3 days in dry seasons to tap to 20l, sell to Somali buyers come this town 4. Stone brick sell to contractors using skilled workers in town 5. Charcoal burning Ksh 300/50kg bag, Ksh 600/90kg-bag, selling to lorry trucks, chief does not like to promote charcoal. 6. Poultry now common. Eat egg and meat. 10-20/ HH. Matured one Ksh 500/cock, eggs Ksh 10Ksh/egg 7.
3	LORITIT (Location: LETEA Division: OROPOI)	Population: 8,527 Area: 577 Pop Dens: 15	Mobile phone: some spots Electricity: n.a. (some solar panels) Regular transportation: n.a. need to arrange (motorbike to Kakuma, freq.: twice/week). Letea from/to Kakuma has regular transportation. Nearest market: Letea (feeder local market), and Kakuma. Especially in Letea, a livestock market has recently been established, and open once/week. Located inside from the main road from Kakuma	<u>Main Livelihood</u> 1. Small scale agriculture maize, sorghum (rainfed and near river from March ~ June) for local consumption 2. Pastoralist Shoats: 80-200/HH Camel: 3-20/HH Donkey: 2~7/HH Poultry: not common 3. Small scale IGAs retail shop agriculture product aloe vera (sell to Somali man in Letea, recently less production, Ksh 400~1000/ 20l-container) charcoal (sell here or in Kakuma by motorcycle, bicycle)

Table BB3.2.1 General Socio Economic Condition in Target 11 Sub Locations

No.	Sub-locations:	Population Area (km2), Pop. Dens.	General Condition Surrounding the Sites	Main Livelihood
4	LOKICOGGIO (Location: LOKICHOGGIO Division:) LOKICHOGGIO	Population: 10,980 Area: 504 Pop Dens: 22	Mobile phone: coverage Electricity: available Urban area: around 70% of population Along with main tarmac road from south to Sudan Good means of transportation	<u>Main Livelihood</u> 1. Small scale agriculture sorghum, cowpea, maize, beans, groundnut (rainfed from April and May) for local consumption 1. Firewood collection and sales to town 1. Small scale IGAs sugar, tea leaf, maize bought from Somali people in town to sell here 1. Casual work 2. Pastoralist Shoats: } Cattle: } 50/HH Donkey: } Poultry: not common
5	LOKIRIAMA (Location: LOKIRIAMA Division: LOIMA)	Population: 3,615 Area: 164 Pop Dens: 22	Mobile phone: some spots Electricity: no (some solar panels) Regular transportation: no matatsu, no public transportation (cars passing by 2~3 times a week) Nearest economic center: Moroto in Uganda, and Lodwar Forest and mountains are close Some insecurity issues with Uganda	<u>Main Livelihood</u> 1. Pastoralist Shoats: 10-50~200-300/HH Camel: rare (~40-50 max/HH) Donkey: 2~5/HH Poultry: not common (2-10/HH) 2. Small business sell livestock to Moroto in Uganda (45km away, market day on Tuesday every week) and buy daily needs and sell here. Uganda traders come here to sell maize and exchange with goats. 3. Mines and aloe vera mines – little gold gold can be collected in river bed during dry seasons. Community collect and sell to local traders, and traders sell to Lodwar. Ksh 300 /point =0.1 gram is the price when community sell gold to local trader. Ksh 3500~400/gram is the wholesale price @Lodwar. mines- green garnet collection point is 8km away from town. Supply volume is not large. Local people collect and store. When buyers come from Lodwar (not regular), they sell bulk (perhaps kg-unit). aloe vera Collect sap from bush and sell Ksh 200-250/5l-container to local traders. Local traders dry and put residual into sack and transport to Lodwar. 4. Gift from NGO and GOK Rarely from GOK once every 3-4 months from Oxfam sorghum and maize, vegetable oil. 5. Wild fruits 6. Others Gum Arabic: collect during rainy seasons Ksh 40/kg if Lodwar buyers need. Honey: collect and sell locally. There are 5 beehives provided by Practical Action.
6	LORENGIPPI (Location: LORENGIPPI Division: LOIMA)	Population: 2,459 Area: 209 Pop Dens: 12	Mobile phone: some spots Electricity: no (some solar panels) Transportation: no regular means (car passing by: twice a week) Economic Center: Lodwar (109km) and Alale (57km) in West Pokot (if security is OK) Hill is near Some insecurity issues with West pokot	<u>Main Livelihood</u> 1. Pastoralist Shoats: 30~200/HH Camel: 5~25/HH Donkey: 3~15/HH Poultry: 7~50/HH, common 2. Relief once a month: Oxfam 30 % of population receive. Sorghum, cooking oils. 3. Wild Fruit collect easily 4. Petit trade sugar and tea leaves. They go to Lodwar and buy

Table BB3.2.1 General Socio Economic Condition in Target 11 Sub Locations

No.	Sub-locations:	Population Area (km2), Pop. Dens.	General Condition Surrounding the Sites	Main Livelihood
				<p>stuff and sell here.</p> <p>5. Agriculture in common land. Sorghum, maize, cow peas for local consumption. From March April to June July during rainy seasons.</p> <p>6. Gold Available in hilly areas, but difficult due to insecurity area, and lack of tool, road, and water. Local community collect and sell to local traders at Ksh 200-250/point=0.1 gram and local traders sell at Lodwar, Kitale, and Eldrad at Ksh 3000-4000/g</p> <p>7. Gum resin very rare (gum Arabic and commiphora). Buyer comes from Lodwar.</p>
7	ELIYE (Location: KANGATOTHA Division: KALOKOL)	Population: 4,792 Area: 494 Pop Dens: 10	<p>Mobile phone: n.a. (some spots)</p> <p>Electricity: n.a. (some solar panels)</p> <p>Lake side (tourist resources) and water is available (spring)</p> <p>Regular transportation: n.a. to Lodwar (need arrangement, freq.: once/week), 2 hrs</p> <p>Nearest market: Lodwar and Kalkol</p>	<p><u>Main Livelihood</u></p> <p>1. Fishing in Lake Turkana Sell in Kalolol by boat, and here, even in the other side of the shore</p> <p>2. Pastoralist Shoats: 5-30/HH Camel: 10-100/HH Poultry: not common (5-10/HH) sold to tourist</p> <p>3. Basket weaving catholic mission buys, remaining are sold to tourist.</p> <p>4. Selling accessories as above</p> <p>5. Small enterprises Retail shops (buy stuff in Lodwar and sell them here) Lodge (for tourist)</p>
8	KERIO (Location: KERIO Division: KERIO)	Population: 4,254 Area: 266 Pop Dens: 16	<p>Mobile phone: n.a. (some spots)</p> <p>Electricity: n.a. (some solar panels)</p> <p>Lake side</p> <p>Regular transportation: available to Lodwar (once/day), 2 hrs</p> <p>Every Tuesday, a livestock market is held.</p> <p>Nearest market: Lodwar and Kalokol (fish buyers)</p>	<p><u>Main Livelihood</u></p> <p>1. Pastoralist Shoats: 50/HH Camel: 2/HH Poultry: not many (2/HH), demand in Lodwar not here</p> <p>2. Fishing in Lake Turkana Sell dry fishes to Kalolol by boat, and here</p> <p>3. Small scale farming along with river and rain harvested area Sorghum, cowpea, green gram for local consumption</p> <p>4. Mat weaving For Lodwar</p>
9	LOCHWANGAMATAK (Location: LOCHWANGAMATAK Division: LOKICHAR)	Population: 14,561 Area: 1,072 Pop Dens: 14	<p>Mobile phone: some spots</p> <p>Electricity: n.a. (some solar panels)</p> <p>Transportation: available Along with the main road between north and south in Turkana</p>	<p><u>Main Livelihood</u></p> <p>1. Pastoralist Shoats: 20-30-100/HH Camel: 6-100/HH Donkey: 1-2-6/HH Cattle: not common (1-2-10/HH) Poultry: not many (2-10/HH) only in center</p> <p>2. Charcoal burning wholesale and retail. Local people make -> local trader -> traders from south Price to sell lorries (outside traders): Ksh 700/90kg-bag, Ksh 300/50kg-bag</p> <p>3. Small business sell maize, beans, sorghum, cooking oil, sugar, vegetables, other daily needs in center They buy at three places, Kitale, Ortum in West Pokot, and Lodwar with each transportation</p> <p>4. } Quarry stones, gravel, and sand</p> <p>5. } Quarry stone: outsiders (just skilled workers) come and tell what to do gravel/sand: communities know how to collect, where to sell. They sell at local and buyers from</p>

Table BB3.2.1 General Socio Economic Condition in Target 11 Sub Locations

No.	Sub-locations:	Population Area (km ²), Pop. Dens.	General Condition Surrounding the Sites	Main Livelihood
				Lodwar 6. Precious stones (green and red garnet) collection point is Nakimak primary school (20km away) with potentially and possibly large stock, but local people do not know this well.
10	LOKICHAR (Location: LOKICHAR Division: LOKICHAR)	Population: 10,820 Area: 188 Pop Dens: 58	Mobile phone: coverage available Electricity: not yet (line has been connected) Transportation: available Along with the main road between north and south in Turkana Urban center + satellite villages Tullow Oil is here.	<u>Main Livelihood (rural)</u> 1. Pastoralist Shoats: 20-50~200/HH Camel: less than 20~50/HH Donkey: 4~10/HH Poultry: 5-10/HH in town 2. Charcoal and fire wood Ksh 150/50kg-bag, and Ksh 250 Ksh/90kg-bag, to town to sell as bulk and also small tin cup 3. Relief food (not received for six months) for registered poor people only WFP->World Vision used to come GOK comes for emergency cases <u>Main Livelihood (rural)</u> 1. Employment (government, NGO) 2. Business (retail etc)
11	LOPII (Location: KOCHODIN Division: LOKORI)	Population: 2,810 Area: 324 Pop Dens: 9	Mobile phone: some spots Electricity: n.a. Transportation: many /day between Lokichar and Lokori Local resources: wild fruits, aloe vera (both in insecure places) Some insecurity issues with West Pokot. Fences are installed at the border of the village.	<u>Main Livelihood</u> 1. Pastoralist Shoats: 20-70~5000/HH Camel: 1~20/HH Donkey: 3-4~10/HH Poultry: not many (5-10/HH) World Vision provided and trained 2. Relief food once in two months by World Vision with maize, lentil, and oil. once every month by GOK (it used to be, now not regular) with only maize

Source: JICA Project Team

Table BB.4.5.1 Planned Actions of DMC and Actual Implementation

Sub-Location	Actions planned	Date of implementation and Outputs	
LOKICHAR	<ul style="list-style-type: none"> Awareness on EWS - Modern and traditional in Kamaresa, 	16/12/2013	Actions to be taken at each stage of the EWS were discussed. After deep discussion with questions, possible constraints as well as supporting opinions, the community agreed to proceed with preparation of possible activities such as early animal off-take. Water management committee was formed as sub-committee under the DMC to manage a specific borehole
	<ul style="list-style-type: none"> Awareness on EWS and Formation of village committee in kaakali and Kalodicha 	20-21 /12/ 2013	Village water user group and rangeland management committee were formed through discussion on the importance.
	<ul style="list-style-type: none"> Rangeland management kamarese, kakali and Kalodicha/Asajait 	14 /1/2014	After the training the DMC facilitated formation of rangeland committee in Kakali ,Kamarase and kalodicha.
LOCHWAAN GIKAMATAK	<ul style="list-style-type: none"> Education of the community on early warning system 	5/2/2014	Community awareness of modern EWS Phases and indicators and ways of drought preparation at every stage. A good number of community members accepted selling their livestock during alert stage to avoid total loss of livestock to drought
	<ul style="list-style-type: none"> Community sensitization on rangeland at Lochwaa, Juluuk, Ngikitokonok and kabura 	26/2/2014	Through Community sensitization on rangeland management they decided to demarcate grazing fields and institute grazing field demarcation
	<ul style="list-style-type: none"> Implementation of rangeland management at Moru aligoi, Kakalel, Nakejuamosing and Lotonguna 	Not yet	Due to long absence of rainfall
LOPII/KARU KO	<ul style="list-style-type: none"> Awareness creation in various kraals on drought management 	23/1/2014	Through the training on rangeland management, the community members showed interest to allocate land for reseeded.
	<ul style="list-style-type: none"> Identifying an area to be apportioned for future grazing 	7/03/2014	A plot for reseeded was identified and decided through discussion among elders
	<ul style="list-style-type: none"> Educate community on the need of selling livestock to avoid dangerous droughts 	23/1/2014	Community awareness was raised on the best time for livestock off take and benefits accrued
	<ul style="list-style-type: none"> Educating community on importance and immunizing livestock 	24/3/2014	Community members at Lopii centre were sensitised on importance of immunizing livestock and the right time for implementation.
LORENGIPPI	<ul style="list-style-type: none"> Sensitize and create awareness on early livestock off-take 	21/2/2014	The DMC members trained the community with the aid of teaching materials and the importance of selling livestock early before the drought strikes. They were able to understand the right time to do off-take and arranged to do sensitization throughout the villages.

	Animal diseases (sensitize the community on livestock diseases)	27/5/2014	The community members present were able to know the right time to vaccinate and treat their livestock for better returns. The community members also realized the benefits attached to healthy livestock.
LOKIRIAMA	• Sensitization on early warning system	17/1/2014	Community was able to distinguish between modern and traditional EWS and mentioned indicators in every stage and how traditional EWS is forecasted. e.g migration of birds, livestock miscarriages shoes chanting. After the training on early warning system the chief and the elders discussed the apportioning of land for grazing during every season in the year
	• Livestock off take awareness	24/1/2014	Community were able to identify major challenges facing livestock as; Drought, overstocking and they were able to identify best time for off take during the training.
	• Community development meeting was held to discuss implementation of the remaining activities in the action plan	21/5/2014	After the meeting the development committee were able to their activities, with focus on Rangeland management and strengthening of LMA and CAWHS
	• Training on early livestock off-take (conducted by ECoRAD)	1/7/2014	The training was organised based on the initiative and interest of the community. The participants understood the value attached to selling livestock early realizing that during the drought the mortality rate of livestock is high as compared to this other stages. Participants were motivated to participate in a good number in early livestock in order to remain with less livestock they can manage during drought. They also understood that selling livestock while they are healthy is beneficial because they can be sold with a good price. The participants came up with one action plan to enable them reach all villages in sensitizing them to early livestock off-take.
	• Educate community on rangeland management system and formation of rangeland committee	14/7/2014	The community was trained on types of rangeland and with the aid of teaching materials from NDMA they were able to learn the best time to apportion land for grazing, they were also very eager to know if reseeded can be viable in their location.
	• Strengthening of Livestock Market Association(LMA) and Community Animal Health Workers(CAHWS) committee	14/7/2014	Community members together with LMA members were sensitised on various ways to improve livestock health such as isolation of sick animals, animal diseases and control measures as well as the right time to implement such activities
	• Baraza- Awareness creation and sensitization on early livestock off take	14/7/2014	Through the training, community understood that one could have manageable livestock as well as enough funds through livestock sales to substitute to other livelihoods when drought strikes.

KERIO	<ul style="list-style-type: none"> To sensitize the community on early off take and early warning system 	22/1/2014	Discussions were made on community awareness of EWS Phases, awareness on best time for livestock off take and benefits of early livestock off take
	<ul style="list-style-type: none"> Sensitize and create awareness on rangeland 	22/2/2014	The community of Kerio was mobilized and sensitization done on proper rangeland use, the chief through his public meetings encouraged the elders to apportion land for grazing and reserve their pasture for grazing during dry season.
	<ul style="list-style-type: none"> Revising action plan without external support and selecting activities for implementation 	16/6/2014	The meeting necessitated the planning of the action plans by the development committee officials
	<ul style="list-style-type: none"> Early livestock training was conducted in Kerio (by ECoRAD) 	2/7/2014	The training led to formation of community action plan to enhance early livestock in the community
	<ul style="list-style-type: none"> Conducting meetings in villages as per early livestock off-take action plan. 	7/7/2014	The meetings were held in Ngimuriai, Ieperyo, Napeyewoi and Nakwapoo. Those involved were community development officials present in the training and LMA officials. Two participants who were present in the training were chosen from every village to do sensitization on early livestock in villages
	<ul style="list-style-type: none"> Creation of awareness on early livestock off-take in chiefs baraza 	20/7/2014	The community members were gathered and sensitization done on early livestock off-take. They were encouraged to sell their livestock early before the drought
	Implementation of rangeland management	17/8/2014	The community demarcated land for dry season grazing area.
ELIYE	<ul style="list-style-type: none"> Educate on drought cycle EWS both traditional and modern in Eliye centre 	25/1/2014	Community awareness on Early warning system both traditional and modern and activities to be undertaken on every stage of drought was discussed to reduce its impact. The community became able to understand what every flag represented in modern early warning system
	<ul style="list-style-type: none"> Meeting with other smaller groups in the community ,CBOs, dispensary committee, livestock and BMU in Eliye centre 	22/2/2014	Clear understanding of roles and functions of DMC as an umbrella body and linking role around the sub groups. Groups in the community agreed to work together with the DMC in order to achieve development goal in the community. They also agreed to have monthly meeting in order to see how every group is progressing with their activities and to assess what they are doing wrong to give room for improvement.
	<ul style="list-style-type: none"> Educate on rangeland management and formation of rangeland committee 	29/3/2014	The community members were mobilized And sensitization done on the best practises of range and pasture utilization in the entire area of Eliye
KANGAKIPUR	<ul style="list-style-type: none"> Teaching EWS report 	28/1/2014 and 31/1/2014	The committee successfully trained community members on EWS signs both modern and traditional.

	<ul style="list-style-type: none"> • Reseeding rangeland management and establishment of pasture reservoirs as community project 	14/2/2014	Community was trained on importance of rangeland management. After the training they proposed formation of rangeland management committee. Community also showed interest to practice reseeded.
		28/2/2014	Rangeland committee was elected
	<ul style="list-style-type: none"> • Livestock health 	9/3/2014	The development committee trained the community and sensitized them on importance of livestock health and the value attached to it.
	<ul style="list-style-type: none"> • Early livestock off-take training in all villages of Kangakipur 	17/4/2014	Development committee conducted awareness on early livestock led to formation of LMA group that is yet to register with the ministry of social services value attached to it
	<ul style="list-style-type: none"> • Construction of livestock sale yard 	22/6/2014	LMA officials constructed a temporary fence to act as a livestock sell yard in Kangakipur.
	<ul style="list-style-type: none"> • Early livestock training conducted by ECoRAD 	26/6/2014	The participants were able to form action plan to guide them in continued sensitization of the community on early livestock off take
MLIMA TATU	<ul style="list-style-type: none"> • Education on livestock off take 	11/8/2014	After CDC sensitizing the community on early livestock off-take the CDC took an initiative of sensitizing the communities in villages, this has increased the number of people selling of the livestock
	<ul style="list-style-type: none"> • Irrigation plan (planting of maize, sorghum etc.) 	Not conducted	
	<ul style="list-style-type: none"> • Rangeland management 	Not conducted	
LORITIT	<ul style="list-style-type: none"> • Rangeland management sensitization baraza 	21/1/2014	Loritit community was able to apportion two plots for reseeded in Akoros and Kaameyan. Regarding livestock off take, the chief met with the community to discuss revival of Letea livestock market and link with Kakuma terminal market.
	<ul style="list-style-type: none"> • Plan for livestock market auction 	10/2/2014	Livestock herder agreed that the best time to treat livestock was during normal stage, they accepted that they have not been practicing that because of lack of knowledge. The community identified with one pastoral field school trainee in their community who is well conversant with livestock treatment and requested him to work with them
	<ul style="list-style-type: none"> • Apportioning of grazing area 	Planned for Early May	Not implemented because of insufficient rainfall.
LOKICHOGGIO	<ul style="list-style-type: none"> • Educating the community on EWS 	22 & 23/12/2013	Community awareness on both traditional and early warning indicators, four stages of drought and activities in each stage for drought preparation. The community was able to apportion land for rangeland management. The community planned to form rangeland committee that was not existent in the area and was to be operational in February
	<ul style="list-style-type: none"> • Rangeland management 	17/2/ 2014	After the discussion on rangeland management with the community and reflecting the willingness of the community to work on reseeded, the area chief allocated land for community reseeded

Source: JICA Project Team

Table BB4.6.1 Outline of Evaluation of Enhancement of Community Resilience (12)

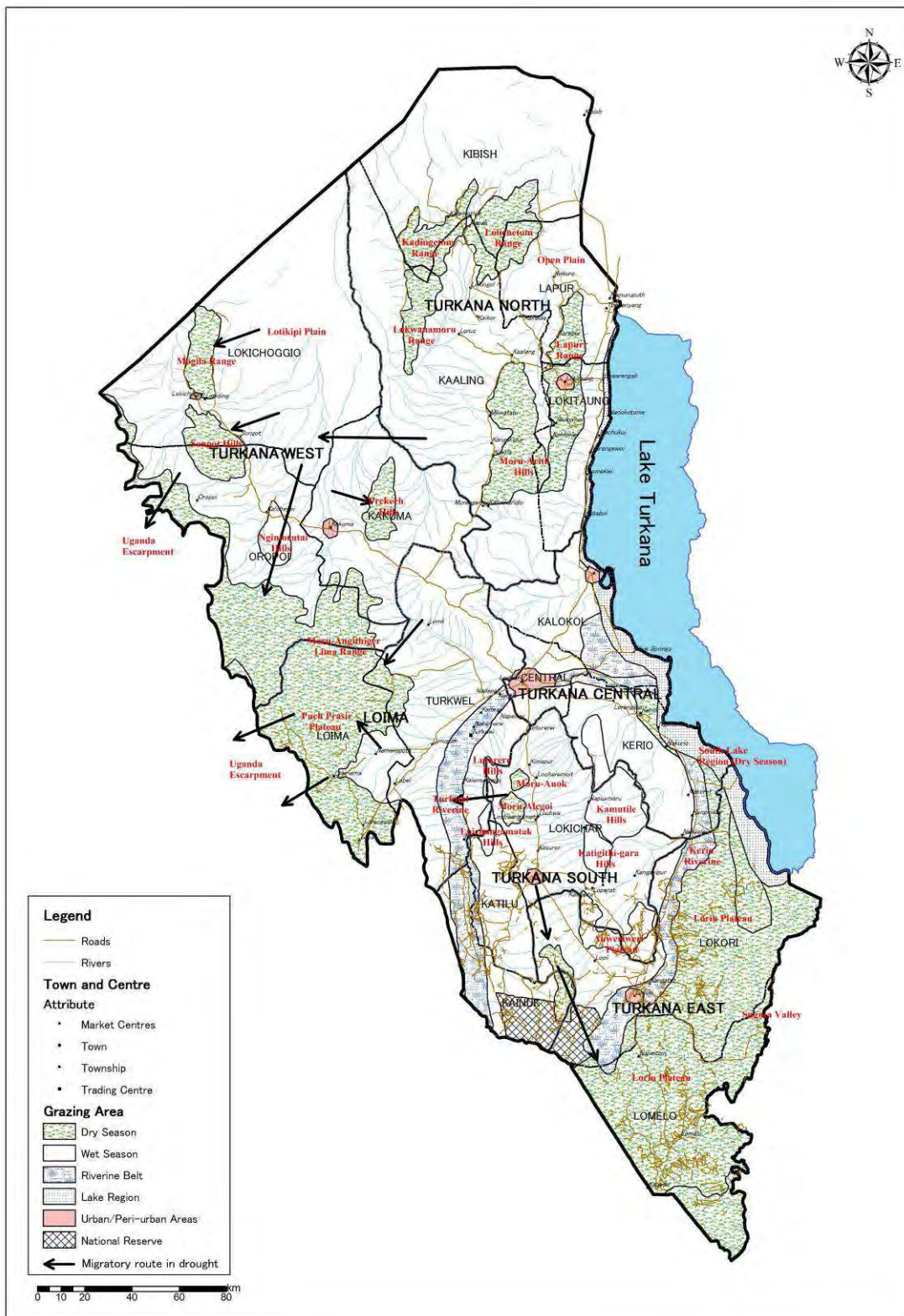
Indicators	Assessment	Relevant information to be collected	Source of information	Methods of information collection
I. Resources: Improvement in resource availability				
Economic resources / development (capital, infrastructure, etc)				
- Vulnerability to hazards	Increase in means and opportunity to deal with difficulties (capacity should be included in the No.2 part)	(e.g. stock and reservation of basic needs to survive during resource scarce period),	General community	Semistructured questionnaire interview
- Level and diversity of economic resources / income resources	Increase of assets / financial capital,	(e.g. livestock, cash, savings, assets that help resilience??)	General community, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
	Diversification of income sources,	(e.g. securing income source during dry/drought period, income for reinvestment for capital after drought, etc)	General community, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
- Equity of resource distribution	Information flow and social structure of resource distribution	(that include decision making of utilisation of available fund, representation of different stakeholders and villages, involvement of people in decision making, structure of distribution from DC to groups to members, etc)	General community, DMC/DC	Semistructured questionnaire interview
- Access to economic resources	Availability of economic infrastructure	(banking system (including community banking), establishment of financial management system, road improvement, facility improvement, etc)	General community, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
	Improvement in access to economic transaction	(e.g. livestock market, market for procurement of necessary goods, etc)	General community, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
Social infrastructure	Improvement of educational opportunity (including non-formal and informal educational opportunities)	(such as knowledge and skill sharing from the DC, or among group members etc)	General community, DMC/DC, Relevant sub-project team (that deal with group/committees)	Semistructured questionnaire interview Sub-project evaluation
	Improvement of health situation	(including the factors that can contribute to the improvement of health, such as clean drinking water source, increase of water availability that enable frequent washing,)	General community, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
	Improvement of formal education	(e.g. improvement of school in Shurr, education of children on drought management, etc)	Relevant sub-project team evaluation,	Routine monitoring of the relevant sub-project team
Natural resources	Improvement of access to natural resources,	(e.g. access to pasture during dry season, new borehole at less distance)	Relevant sub-project team evaluation,	Sub-project evaluation, Routine monitoring of the relevant sub-project team
	Increase of amount of available natural resources,	(e.g. borehole, reseeded???)	Relevant sub-project team evaluation,	Sub-project evaluation, Routine monitoring of the relevant sub-project team
	Better management of natural resources	(e.g. management structure as a community, management body within the DMC structure,	Relevant sub-project team evaluation,	Sub-project evaluation, Routine monitoring of the relevant sub-project team
	Indirect impact of improvement of natural resources availability	(e.g. reducing opportunity cost of time for fetching water)		

Table BB4.6.1 Outline of Evaluation of Enhancement of Community Resilience (2/2)

Indicators	Assessment	Relevant information to be collected	Source of information	Methods of information collection
2. Capacity of people				
Human resources	Existence of leaders	(e.g. change in leadership in the community, division of roles and responsibility within the community, etc)	General community, DMC/DC	Semistructured questionnaire interview
Capacity to identify risks and solution	Experience / episode on identification of any community issue / problem (as drought risk is limited during the project period)	(e.g any risk reduction judging situations, how they come to their solution (problem solving process and structure), capacity as a community (involvement of the community)),	General community, DMC/DC	Semistructured questionnaire interview
Capacity in mobilisation of resources,	Resources utilised for community development and drought mitigation	(e.g. how have they mobilised, who brought / who took initiative, how they managed the mobilised resources)	General community, DMC/DC, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
Capacity to address the identified issue with their own resources and with external resources	Experience / episode on handling of any community issue / problem (as drought risk is limited during the project period)	(e.g. practice of solving problem, preparing for the expected problem, how they have implemented, with which resources and initiatives)	General community, DMC/DC, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
Capacity to utilise and apply knowledge and skills	Application of the knowledge and skills learnt through trainings (not limiting to ECoRAD trainings)	(e.g. what kind of knowledge and skills they practiced, who practiced, how many of the community acquired the knowledge and skills)	General community, DMC/DC, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
3. Network / social relationship				
Community action	Episodes of collective activities taken as a community	(e.g. what kind of activities, how they made consensus, who were involved,	General community, DMC/DC, Relevant sub-project team evaluation	Semistructured questionnaire interview Sub-project evaluation
Organisational linkage and cooperation	Organisation and function of the DMC/DC and other stakeholders	(e.g. in what issues the DMC/DC structure functioned, relation between DMC/DC and other groups/committees/stakeholders)	General community, DMC/DC	Semistructured questionnaire interview

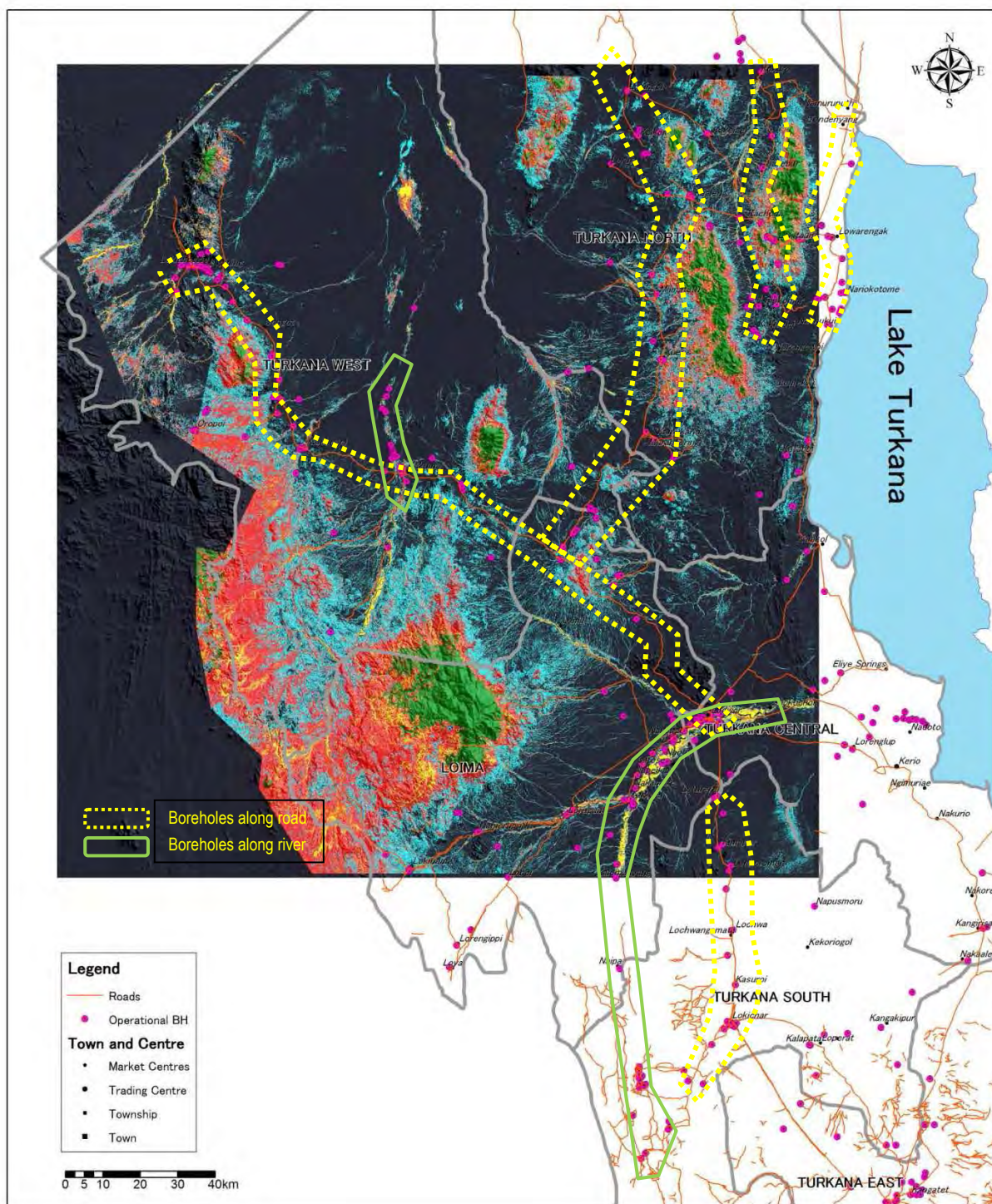
Source: JICA Project Team

Figures



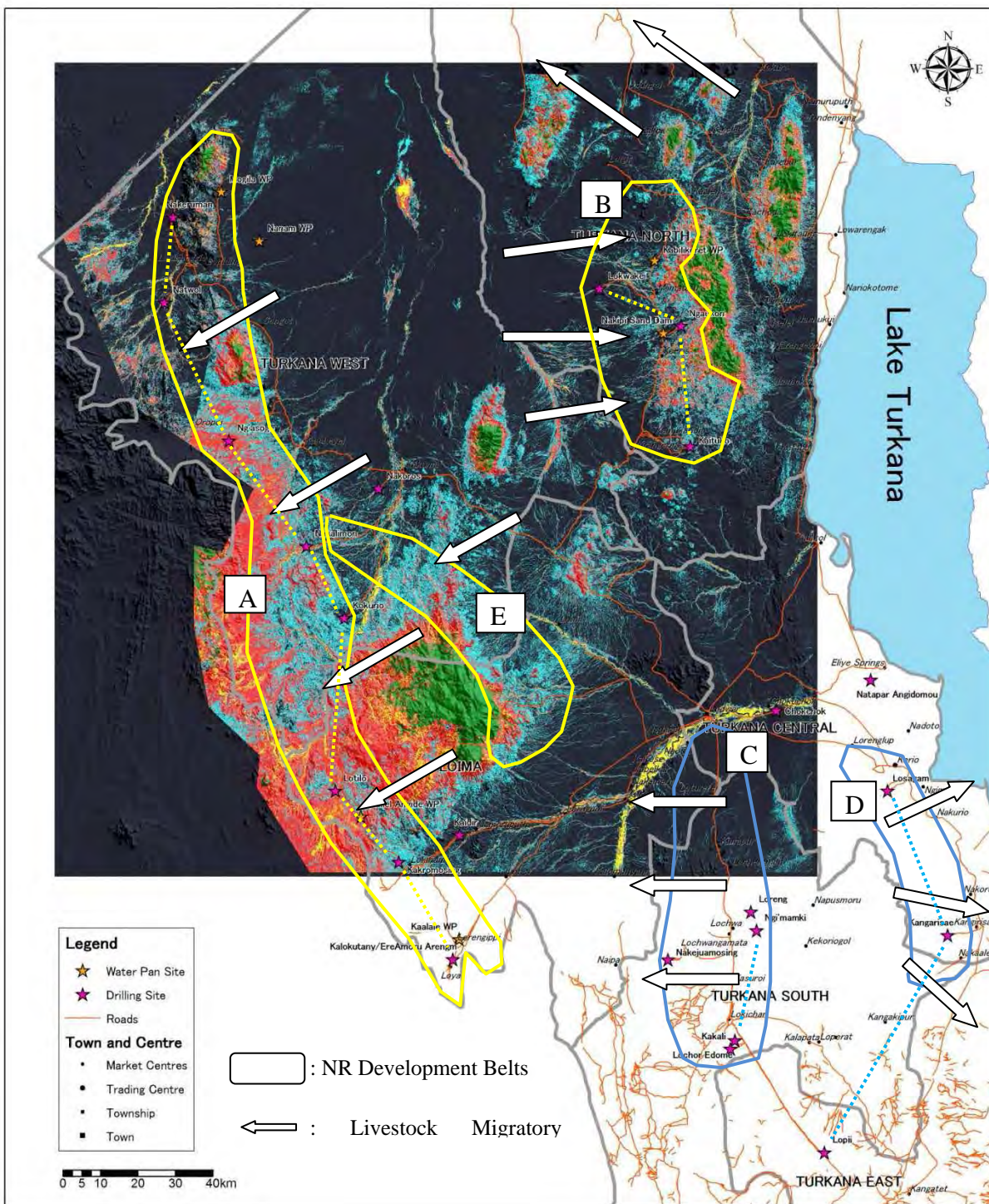
Source: UNICEF and JICA Project Team

Figure BB3.2.1 Grazing Area and Migratory Routes in Drought in Turkana County



Source: UNICEF and JICA Project Team

Figure BB3.2.2 Present Operational Boreholes in Turkana County



Source: UNICEF and JICA Project Team

Figure BB3.2.3 Natural Resource Development Belts

Attachments

Attachment B2-1

Community Action Plans (CAPs) of Marsabit

Attachment B2-1 COMMUNITY ACTION PLANS of Marsabit

Disaster Risk Reduction Community Action Plan (DRR – CAP) Turbi Location

Objective	Activities	Target	When	Resource & sources	Responsible Person	Expected Change & Result
Organization - To strengthen capacities of the community organizations to effectively respond to drought	<ul style="list-style-type: none"> DRR committees Brainstorming capacity need assessment Training/exposure tours & linkage within & across the border Formation of CMDRR committees where it does not exist Legalization of CMDRR committees Regular meeting of CMDRR committee Exchange & cross border learning visit Cross border dialogue at the community to replicate & adoption to other communities eg chariliche, Walda, Elibora, Uran, Funna Qumbi Formation of CMDRR apex of the cross border joint committee Establish & enhance CMDRR centre 	<ul style="list-style-type: none"> Burgabo Tigo Turbi 	<ul style="list-style-type: none"> 30th Sep to 15th October 	<ul style="list-style-type: none"> PACIDA GOK CDF FHK PISP Community organizations 	<ul style="list-style-type: none"> DRR Officials in cooperation with stakeholders 	<ul style="list-style-type: none"> Increased cross border businesses & coordination & information sharing Improved documentation skills of the committees Improved internal coordination
Mitigation - To mitigate effect of drought	<ul style="list-style-type: none"> Construction of s& dams Planting of trees around water points Capacity building of community organization on agro forestry 	<ul style="list-style-type: none"> Tigo Burgabo Turbi 	<ul style="list-style-type: none"> 1st December -4th May 2013 	<ul style="list-style-type: none"> PACIDA GOK PISP CIFA 	<ul style="list-style-type: none"> DRR Committee in cooperation with partners 	<ul style="list-style-type: none"> Reduced evaporation rate Increased forest care
Individual Survivability - To enhance individual survivability	<ul style="list-style-type: none"> Immunization of children under 5 years Provision of basic health care service Provision of skills on gastronomy & breastfeeding Establishment of mobile schools for mobile pastoralists Provision of scholarships & school equipment schemes Increase pupil teacher Ratios Provide vocation training & business development skills Provide alternative form of livelihood Inculcate family planning skills Raise awareness on STDs 	<ul style="list-style-type: none"> Burgabo Turbi 	<ul style="list-style-type: none"> 1st October - Jun 2013 	<ul style="list-style-type: none"> PACIDA CIFA GOK 	<ul style="list-style-type: none"> DRR committee & individual members of the community 	<ul style="list-style-type: none"> Improved livelihood Improved local money transfer Improved local skills on income generating aids Reduced child mortality & improve health education among vulnerable groups Improved enrolment, performance & detention rates

	<ul style="list-style-type: none"> Train on food preservation technique & value addition Training on balance diet food Provision of social security funds for elderly Provide skills & establish improved 					<ul style="list-style-type: none"> Improved social welfare & household Economy
Community Readiness - To enhance community readiness to respond to drought	<ul style="list-style-type: none"> Awareness creation on social order & laws Training on water management committees on basic documentation & financial management Training of range users association / Environmental management custodian, establish Capacity building for school management committees Construction & rehabilitation of Market structures Fencing of water resources De-silting of water pans & expansion Protection & rehabilitation of shallow wells Training & strengthen & establishment of livestock disease surveillance committee Formation & training of early warning information committees & linkage & dissemination Capacity building for borehole operators Rehabilitation of rock catchments & underground tanks 	<ul style="list-style-type: none"> Burgabo Turbi 	<ul style="list-style-type: none"> 1st January - Jun 2013 	<ul style="list-style-type: none"> PACIDA CIFA KRCS GOK CDF 	<ul style="list-style-type: none"> DRR officials 	<ul style="list-style-type: none"> Respect & value the traditional laws/order that governs social economic environmental issues Improved water resource availability, accessibility for domestic & livestock use Improved management of wet & dry season grazing areas Improved maintenance & repair of boreholes Reduce response time to emergencies Improved livestock Market system
PME&L - To enhance community PME&L system	<ul style="list-style-type: none"> Meeting with DRR committees Collecting of baseline data Development of indicators Visit project sites Learning & documentation Capacity building 	<ul style="list-style-type: none"> Tigo Burgabo Turbi 	<ul style="list-style-type: none"> 1st October - 30th Jun 2013 	<ul style="list-style-type: none"> PACIDA GOK CDF 	<ul style="list-style-type: none"> DRR officials 	<ul style="list-style-type: none"> Developed simple community monitoring framework Improved documentation & record keeping skills Improved documentation, case studies & evidences of change

Community Action Plan – Hurri Hills

Objective	Activities	Target	When	Resource & sources	Responsible Person	Expected Change & Result
Water development	<ul style="list-style-type: none"> - Construction of 7 under-ground tanks - Rock catchment rehabilitation - Provision of 200 Household plastic tanks - De-silting 3 pans - Promote roof water harvesting technology. 	Hurri hills community Men, Women, Farmers, pastoralist	Nov 2012	Community JICA, Diocese of Marsabit, GOK, KRCS, PISP, Knef PACIDA	Area chief Area councilor Water users management C.D.C Community	Availability of water Improved lifestyles. Improvement in hygiene standards. Engagement in farming activities. Reduce water resource conflict Reduction in human & livestock migration
Reduce poverty level	<ul style="list-style-type: none"> - Restocking programme of 500cattle, 500 camels - Poultry rearing - construction of poultry units & procurement of birds - Bee keeping: enterpriseprovision of beehives & accessories 	Hurri hills community	Jan -Mar 2013	Community PACIDA,PISP G.K, JICA	Area chief C.D.C Area councilor DRR committee	Enhanced food security. Improved income at house hold level. Reduction in school dropout Engagement in alternative livelihood. Job & Wealth creation.
Improved farming	<ul style="list-style-type: none"> - Training on crop husbandry - Provision of farm inputs e.g. Jembe, seeds spade - Seed distribution especially for drought tolerant crops - Green house technology development. 	Hurri hills community		Diocese of Marsabit Solidarites JICA, PACIDA G.K/ D.O.M Solidarites JICA, NALEP	Area chief C.D.C Community	Improvement in food security -Increased income from produce sale -Improved soil conservation measures.
Environmental conservation	<ul style="list-style-type: none"> - Pasture conservation - Training & support of EMCs on environmental conservation - Afforestation Programme. 	Hurri hills community	Jan 2013	Diocese of Marsabit G.K, JICA PACIDA, F.H.K	Area chief EMC C.D.C	Improved conservation measures. Reduced soil erosion. Vegetation re-growth.
Improved livestock Marketing	Auction yard Transport subsidies	Hurri hills community	Dec 2012	G.K, F.H.I PACIDA D.O.M	Area chief Community C.D.C	Increased income. Poverty reduction. Reduced pressure on grazing l&.
Disease control	Training CBAHWs on disease control measures	Chief ,CD C, men,	Nov 2012	Vet. Dept NALEP, FHK,	Chief, CDC, Elders,	Reduced livestock disease Availability of vet services close to the people.

	Equipping CBAHWs	women, youths	Dec 2012	KARI, CIFA, PACIDA, JICA	youth women, men	Services closer to the community. Improved animal health services
	Building of drug store					Accessible animal drugs
Water development.	<ul style="list-style-type: none"> - Establishing & training water resources committee - Desilting water pans - Construction of 18 underground water tanks - Purchase & distribution of 120 – 3000 litre tanks 	DRR committee Elders Youth Women	Jan - Mar 2013	PACIDA JICA KARI G.O.K PISP NALEP Community	DRR Committee Elders Youth women	Reduced conflict over resources Increased availability of water for livestock
Improving health facilities	<ul style="list-style-type: none"> - Construction of equipped maternity ward - Training on health education CHWs, TBAs & CHEWs - Selection & training of DRR committees 	Hurri hills community nurses CHWS	Dec 2012 Oct 2012	G.O.K/MOH JICA PACIDA PISP Concern F.H.K Hurri hills Community	Area chief CHWS Committees community	Medical services accessible Improvement in hygiene Awareness & sensitization on importance of health
Improve water source for human & livestock	<ul style="list-style-type: none"> - Provision of 250 plastic tanks each 3000 litres - Dams & rock catchment - Training on water hygiene & sanitation 	Hurri hills community	Jan 2013	JICA PACIDA Concern w/wide PISP Hurri hills community	Area chief CHWs Elders C.D.C	Reduced incidence of water borne diseases Availability of clean water
Adequate supplementary food for pregnant/lactating mother & children under 5yrs	Food relief	Women Children under 5 years	Nov 2012	Diocese of Marsabit Solidarites Concern PISP PACIDA G.O.K	Area chief CHWs Nurse Community	Reduction in malnutrition. Improved health status.

9.0 COMMUNITY ACTION PLAN (CAP) FOR CMDRR - Karacha

Objective	Activities	Target	When	Where	Who	How
Drought						
To enable community members diversify means of livelihood	<ul style="list-style-type: none"> - Construction of 3 green houses - Restocking of 300 households - Provision of revolving funds for 5years - Expansion of fodder acreage in order to increase fodder production to enhance milk yield during the scarcity (drought period). - Improve livestock Market through co-management module. -Improving infrastructure e.g. loading ramp sales yards, toilets. - Training on good poultry management practice e.g. groups training. - Introduction of new high breed heifer (camel) to improve indigenous local breed. 	Poor families	Oct 2012 - Jun 2013	Kalacha Ollom Rage	<ul style="list-style-type: none"> - PACIDA - Community - FHK - PISP - JICA - NDMA 	<ul style="list-style-type: none"> - Community contribution - Fund availability
To support village polytechnic & jua kali sectors	<ul style="list-style-type: none"> - Construction of carpentry class, kitchen, dining hall, store, tools & equipment, fencing 	- Umuro polytechnic	Dec 2012 – Aug 2013	Kalacha	<ul style="list-style-type: none"> - Youths affairs office - Community FHK, PISP SOS, JICA NDMA 	<ul style="list-style-type: none"> - Community contribution - Fund availability
To support Physical infrastructure & boarding facilities	<ul style="list-style-type: none"> - Construction of KalachPrimarydorms, bedding, furniture - Kalacha Nomadic Girls-bedding, teachers' quarters & windmill - Rage primary & Ollom primary-Administration blocks, classroom: Ollom-6 & Rage-2 	<ul style="list-style-type: none"> - Kalacha PriMary - Ollom primary - Rage primary 	Oct 2012 – Jul 2013	Kalacha Ollom Rage	<ul style="list-style-type: none"> - PACIDA - FHK - PISP - CDF - Community 	<ul style="list-style-type: none"> - Community contribution - Fund availability
To support small scale irrigation	<ul style="list-style-type: none"> - Expansion of the canal to the end of the scheme 	- Community organization	Oct 2012	Kalacha Rage	<ul style="list-style-type: none"> - PACIDA - FHK 	<ul style="list-style-type: none"> - Community contribution - Fund availability

schemes development	<ul style="list-style-type: none"> - Fencing of the farm plots outside the scheme - Provision of pasture seeds management - Management of <i>prosopis</i> - Promote of drought tolerance crops 		to March 2013		<ul style="list-style-type: none"> - Community - PISP - NDMA - JICA 	
Processing of natural salt(muludhe)	<ul style="list-style-type: none"> - Construction of mini factory - Capacity building on harvesting, processing, packaging - Maintenance of the machine 	<ul style="list-style-type: none"> - Community - Organization 	Nov 2012 to Mar 2013	Kalacha	PACIDA, FHK, PISP, Community NDMA, JICA	<ul style="list-style-type: none"> - Community contribution - Fund availability
To support quarry industry	<ul style="list-style-type: none"> - Acquire quarry harvesting machine 	<ul style="list-style-type: none"> - Community - Organization 			PACIDA,FHK PISP, NDMA Community	<ul style="list-style-type: none"> - Community contribution - Fund availability
- To promote apiary around Kalacha Irrigation scheme	<ul style="list-style-type: none"> - Acquire 50 bee hives KTBH - Capacity building for bee keepers 	<ul style="list-style-type: none"> - Community - Organization 		Kalacha	PACIDA, FHK, PISP, Community NDMA, JICA	<ul style="list-style-type: none"> - Community contribution - Fund availability
- Promote poultry farming	<ul style="list-style-type: none"> - Acquire300 birds 	<ul style="list-style-type: none"> - Kalacha nomadic girls -Kalacha - Rage primary - Umuro polytechnic - Mazingira women group - Livestock Marketing group 		Kalacha Rage	<ul style="list-style-type: none"> - PACIDA - JICA - Community 	<ul style="list-style-type: none"> - Fund availability
- Reduce loss of livestock during drought	<ul style="list-style-type: none"> - Sensitize the community on the need to sell livestock before the onset of drought 	<ul style="list-style-type: none"> - Community 	Jan 2013	The 3 sub Locations in Kalacha	<ul style="list-style-type: none"> - PACIDA - JICA - Community 	<ul style="list-style-type: none"> - Holding seminars - Improving the efficiency of the existing livestockMarket.
- Accelerate productivity between droughts	<ul style="list-style-type: none"> - Increase the number of livestock before drought. 	<ul style="list-style-type: none"> - The poor families 	Dec 2012		<ul style="list-style-type: none"> - PISP - FH-K 	<ul style="list-style-type: none"> - Restocking - Holding seminars for sensitization.
- Ensure maximum productivity of the herd	<ul style="list-style-type: none"> - Increase the number of heifers as compared to steers. 	<ul style="list-style-type: none"> - Community 	Feb 2013			<ul style="list-style-type: none"> - Availing heifers for exchange with steers. - Holding seminars for sensitization

- Alleviate mortality of livestock during drought	- Selling the old animals before the onset of drought	Community	Feb 2013			- Availing a ready Market with fair prices. - Holding seminar
- Expanding the range l&s	- Planting drought resistant grass	Community	Mar 2013			- Identify bare l&s where grass can be planted - Availing certified seeds.
- Spreading the risk of livestock loss during drought	- Establishing/Enhancing of stock associates arrangements	Community	Jan 2013			- Facilitate selection of associates - Holding seminars for sensitization
- Enhance camel rearing	- Emphasizing on the need to rear more camels	Community	Jan 2013			Holding seminars for sensitization
- Reclaiming the rangeland	- Bush clearing - Discouraging overgrazing	Community	Apr 2013			- Holding seminars for sensitization - Introducing 'cash for work' - To encourage bush clearing.
- Enhance livestock mobility	- Strategic distribution of boreholes	Community	Feb 2013			- Drilling more boreholes while considering the migratory patterns of the community. - Avoiding unnecessary interference of the livestock corridor for example by fencing

Water						
Objective	Activities	Target	When	Where	Who	How
Increasing access to water for human & livestock	- Rock catchment - Drilling boreholes at Hilder - Rehabilitation & Desilting of Kutur water pan. - Procurement of generators for two sites.	- Opinion leaders - Organization - CDF committees	Dec 2012 to May 2013	- Gotu katello - Qale - Hilder - Boqe - Kutur	- DRR committee - Kutur community - PACIDA	- Availing of funds & expertise - Community contribution
Access to clean & safe drinking water at Kalacha centre	- Water piping systems from Kalacha Godha to Kalacha centre - Establishment of water treatment plant.	- Opinion leaders - Organization - CDF committees	Dec 2012 to May 2013	- Kalacha centre	- JICA - PISP - CDF	
Capacity building for water users association	- Training	- Water users association	Dec 2012 to May 2013	- Kalacha - Rage	- NDMA	
Train expatriates on Water development skills	- Training - Maintenance of boreholes/ spareparts	- DRR committee - Organizations - Pump attendant - WUA	Dec 2012 to May 2013	- Hilder - Qale - Boqe		

Conflict						
Objective	Activities	Target	When	Where	Who	How
To create peace initiatives & equip people with relevant knowledge that enhances coexistence among the neighboring communities	- Mobilize men & youth in peace meetings - Exchange visits - Spread peace information to communities	- Men & youth leaders - Opinion leaders - Administrators	Jan to Feb 2013	- In the three sub locations of Kalacha location	DRR committee, Community, PACID&MA, JICA, Partners & other stakeholders	- Organizing seminars
Community harmonization through traditional & modern early warning signs (EWS)	- Mobilize elders, diviners, foretellers - Information sharing with groups	- Elders - Diviners - Opinion leaders - Peace committee - Administrators	May to Jun 2013		DRR committee, Community, PACID&MA, Partners & other stakeholders	- Transport - Funds - Availing of expatriates - Information networking
Peace building capacity enhancing	- Community mobilization - Community barazas	- Community - Opinion leaders - Religious leaders	Jun to Jul 2013		DRR committee, Community, PACIDA, Partners & other stakeholders	

Environmental Degradation						
Objective	Activities	Target	When	Where	Who	How
To provide water & pasture	- Provision of water kiosks at location sites - Drilling of boreholes at Ollom	Vulnerable people/ areas	Jun 2013	- Kalacha - Ollom	- DRR committee - PACIDA	Provide funds
Drilling boreholes in Ollom	- Drilling three boreholes in Ollom	Human & livestock	August 2013	- Kalacha - Ollom	- Partners & other stakeholders	Provide funds
To build capacity of existing EMC's	- Training of EMC's - Workshop - Strengthening of EMC's by-laws	EMC's, Opinion leaders, Administrators, Herders	Nov 2012 To Jul 2013	- Kalacha - Rage - Ollom		- Through EMC's contribution - Provision of funds - Community contribution
Improvement of livestock Marketing facilities	- Fencing of Marketing yards	EMC's, LMC's, Leaders, Livestock officers	Dec 2012 to Apr 2013	Kalacha		
Fodder & pasture harvesting & preservation	- Hay bailers provision - Hay bailing machine provision - Hay store	EMC's, LMC's, Leaders, Livestock officers	Dec 2012 to Apr 2013	Kalacha		
To promote wildlife conservancies & create awareness against poaching	- Training the community - Conservancy by-laws formulation & strengthening	EMC's, KWS, Teacher, Administrator	Jan 2013 to Sep 2013	- Kalacha - Kutur/Rage - Ollom		

Drug & Substance Abuse						
Objective	Activities	Target	When	Where	Who	How
To create awareness on dangers of drugs & substance abuse	- Youths mobilization - Meeting with youths - Guidance & counseling	- Youth group - Women/ men - Administrators	From Oct 2012	- Kalacha - Ollom - Kutur - Rage	- DRR committee - PACIDA - Community	- Public barazas - Workshop seminars - Through learning institutions
To establish & equip Entertainment centers & community library	- Construction of entertainment centers & a library	- Youth groups - NGO's	From Nov 2012 to Jun 2013	Kalacha centre	- Partners & other stakeholders	- Solicit for funds from NGO's & other donors/Well wishers - Community contribution
To train enough skilled counselors to establish & equip guidance & counseling centers in Kalacha location	- Training - Construction of guidance & counseling centers	- Youth groups - NGO's	Nov 2012 to Jun 2013	Kalacha centre		- Organizing seminars
Human & Livestock Diseases						
Objective	Activities	Target	When	Where	Who	How
To provide veterinary services for animal health	- Construction of ;crush - Cattle dip - Agrovet - Mobilization of community on disease outbreak - Capacity building for CBAHW's - Provision of veterinary drugs	- health workers - Opinion leaders - Animal Community - Administrators	Dec 2012 to May 2013	Within three sub locations of Kalacha	-Veterinary officers - PACIDA - Community - Partners & other stakeholders	Within three sub locations of Kalacha
To support & enhance human health services	- Capacity building for CHW's,TBA's - Mother to mother support group - Establishment of mobile clinics - Awareness creation on HIV/AIDS, prenatal & ante natal care - Enhancement of child immunization - Supplementary feeds for the under five - Human health personnel	- health workers - Opinion leaders - Animal Community - Administrators	Dec 2012 to May 2013	Within three sub locations of Kalacha	MOH Concern worldwide	
Floods						
Objective	Activities	Target	When	Where	Who	How
Enhanced road network between Hilder & Kalacha centre	-Construction of roads between Hilder & Kalacha	-DRR committee -Opinion leaders -Administrators	From Oct 2012 to Mar 2013	-Kalacha centre -Across Chalbi b/w Kalacha & Hilder	- Community -PACIDA -DRR committee	Availing of funds Community contribution
Establish strong check dams & gabions along the seasonal rivers in Kalacha	-Construction of check dams & gabions -Construction of cut off drains	-DRR committee -Opinion leaders -Administrators	From Oct 2012 to Mar 2013	Kalacha centre	-Partners & other stakeholders	

COMMUNITY ACTION PLAN (CAP) FOR CMDRR – Dirib Gombo

Objective	Activity(What)	Resources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change	
EDUCATION SECTOR							
To Enhance school Enrollment for Children in the Village	Construction of Gombo Nursery School	2m	Gombo	2012-2013	GOK /NGOS/ Community	New Nursery school Constructed	
	Liaise with Ministry of education to post /Recruit Nursery Teachers		Gombo	2012	GOK / NGOS / Community, CDF	Nursery school teachers posted in Gombo	
	Provision of PVC Tanks to the School 2no.(10,000lts)	220.000			PISP, CIFA	PVC Tanks available at the nursery school Water accessibility to targeted schools improved Improved hygiene & sanitation	
WATER SECTOR							
Objective	Activity(What)	Resources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change	
To Provide Clean, affordable & adequate water to Dirib Gombo community	Construction of Water Catchment areas	5 M	Gotu Dambi Catchment.		2013	Community, CDF, MOW, NGOS(JICA, PISP, CIFA, Goal-kenya)	Water catchment developed
	Rehabilitation of Dololo pan	4 M	Dololo Dokatu				Dams constructed at proposed community site
	Rehabilitation of yaa pan	4 M	Dirib Gombo Dam				
	Construction of IDP pan	7.5	Yaa (IDP) Dam (20,000 cubic /Dam(20,000 cubic)		2012-2017		Availability of clean & affordable water for both human & livestock
	Construction of a new pan	7.2 M	Mulata Buke Dam Gombo Catchment		2013 2014	Community, CDF,	Reduced distance for women fetching water
	Rehabilitation of a pan	2 M	Qachacha Catchment		2013		
	Rehabilitation & expansion of a pan	5.2 M	Boru Haro Dam Expansion		2014	MOW, NDMA, ENNDA, NGO's(Goal-Kenya, PISP/JICA, CIFA, GAA)	Livestock accessed water near grazing areas
	De-silting of a pan	4.7 M	Desilting of Gombo Dam		2013		
	Purchase of equipments						
	Drilling of two new boreholes & equipping	5.2 M	Drilling of Borehole at Dirib Drilling of Lag wolena Borehole		2014 2012		Reduced water shortages for both livestock & human
Construction of a dam in Qachacha	5.8 M	Construction Qachacha Dam		2013			
Borehole drilling &equipping	5.5 M	Qachacha Borehole drilling					
Development of catchment		Malaka Dimtu Catchment					

LIVESTOCK DEVELOPMENT						
Objective	Activity(What)	Resources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
To promote Livestock trade & diversification of livestock species in Gada-Moji division	Restocking of Drought Resistant Livestock ; - Camel (50 HH)	2 M	Dirib Gombo Location	2012 – 2013	GOK (MOLD), JICA, FHI, PISP, CIFA), Community	Drought tolerant animal species for distribution to community purchased
	Heifer exchange program pilot Purchase & distribute 1500 goats to identified families Donkeys(60 HH) Poultry 500 HH	900,000 1,25M				Camels distributed to 50 household Heifer exchange project initiated 1500 goats distributed to identified households 60 donkeys purchased & given to targetd families Selected poultry breeds distributed to 500 house hold Household food security of benefited families improved
To support development of public facilities to enhance effective service delivery in Dirib	Expansion of road networks & putting of murrans in Major roads	700,000	Dirib	2013		
	Construction of Livestock Market	2.5 M	Dirib	2012		Weather roads serving Dirib exp&ed & murramed Functional L/stock Market established

AGRICULTURE						
Objective	Activity(What)	Resources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
To Increase food Production through use of appropriate farming technology & Agri-Business.	Construction of Grocery Market	3.5M	Dirib Location	2012		Market stall for agricultural products supported
	Construction of Green House 5 no.@ 100,000	0.5M		2013		Five Green houses piloted in Dirib
	Promote soil conservation measures through Terracing	0.5M		2012		Farmers soil conservation efforts improved by adopting modern terracing technique
	Provision of farm tools & equipment	100,000		2012		
	Practice of Agro –forestry (purchase of seedlings)	3M		2012		Farmers integrated tree planting & farming, Improved access to firewood & fodder for farmer's family & L/stock
	L& deMarcation	0.75M		2012		
	Purchase of breeding bulls for cross breeding 5 bulls in number	1M		2012		L/stock breeds improved Five breeding bulls purchased

	Provision of livestock drugs e.g. deworming tabs	1.5M		2012		Animals health service & clinics improved
	Provide extensions service to farmers	1.6M		2013		Increased acreage planted with food crop Increased farmer yields, Improved household food security &accessibility to balance diet
	Support 50 farmers with oxen, ox-plough & certified seeds					
	Training on how to plow with oxen & introduction of drip irrigation					

HUMAN HEALTH						
Objective	Activity(What)	Resources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
To improve access, affordable & efficient delivery of health services system in Dirib	Construction of Dispensary Provision of drugs to the dispensaries	2 M				Dispensary constructed & equipped Health personnel posted
	Establishment & training of Community Health workers (CHEW's) 3 trainings @ 150,000	450,000				CHWs re-activated & trained Community basic health care enhanced
	Posting of Health workers to the Dispensaries					-

SECURITY						
Objective	Activity(What)	Resources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
To encourage Peaceful Co-existence among the Community & neighbors	Conduct 4 peace meetings forums @150,000 Refresher courses for the KPR's Establishing of Administration Post Community sensitization Disarmament exercise	600,000	Marsabit central	2012-2017	GOK,, provincial administration, DOM, Police, PISP, FH, religious institutions	Peace meeting conducted The community enjoys peace with neighbors & enhance conflict preventive measure/initiative KPR structure strengthen, KPR retrained Police post established & security situation improved Community responded to government appeal to return of illegal guns

To capacity Build of DRR Committee to enhance community's resilience	Conduct training on the CMDRR Committees on Disaster Risk Reduction 4 Trainings @150,000	600,000	Dirib Gombo	2012	JICA/PISP, NDMA	.DRR committee formed Skilled on hazard resilient enhanced Community organization formed
Promotion of Borana Culture	Construction of Borana Cultural Center & equipping Market it as tourism attraction center Conduct periodic shows & educational days	750,000	Dirib	By 2014	Community, CDF, Kenya national museums, Kivulini trust international, NDMA	Fully operational cultural established Center of tourism attraction
To Preserve & Conserve community 's natural heritage (wildlife)	Community wildlife conservation	1.5m	Dirib	By 2017	Community , KWS, CDF, county government	Community managed wildlife conservancy established Community reaps wildlife conservation dividends
To promote livelihood Diversification among agro-pastoralist of dirib Gombo	Identify, training & support five Community organized Groups Provide grants & loans through micro finance initiatives for groups Cash transfer 700 HH@3500 x 6 months	2m 5m 14.7m	Gada Moji division	2013-2017	PISP, JICA,	Five income generating groups trained Groups supported with grants 700 households benefited from cash transfer program Household income improved
To strengthen community's initiatives for the development of community managed asset to enhance resilient against hazard	Construction or de-silting community 's water pan through Identify & survey for new site proposed for excavation work		Dirib Location of Gadamoji division	Yearly between Jun –Oct(10ng dry periods)	FH/WFP, PISP, CIFA, Concern, NDMA,	Community water structure(dams) rehabilitated 700 families household status greatly improved The ability school fees obligations & access to medical services enhanced
To improve living conditions of 100 Internally displaced persons in Dirib	Construction of shelter to IDP's 100 HH @ 100,000	10 M	Dirib Location	2013-2013	GOK,(ministry of special program), CDF, Red Cross, Community	Habitable houses built for 100 IDPs in Dirib Improved health status of IDPs family

COMMUNITY ACTION PLAN (CAP) FOR CMDRR – Gar Qalsa

Objective	Activities	Target	When	Resource & sources	Responsible Person	Expected Change & Result
To mitigate effect of drought	-Construction of s& dams -Planting of trees around water points -Awareness creation on deforestation -Rehabilitation of ecosystems	Qilta Korma Location	Jan-May2013 Oct-Nov 2012 Oct-Nov2012 Nov-Dec2012 Oct-Dec 2012	5M by CIFA,JICA & PISP 1M BY NEEMA & KARI 0.5M BY ARIDL&S 2M BY PACIDA & SOS 1MILLION BY M.O.H	COMMUNITY BORU BARAKO DIID BORU KATELO MAMO CDC EMC,CDC	Reduced evaporation rate Increased forest cover
To enhance individual survivability	-Immunization & health care services -Supplementary feeding for children & elderly -Grain storage facilities -Alternative source of livelihood-green houses, chicken, aloe etc. -Provision of plastic tanks -Shelter improvement for vulnerable households -Construction of underground water tanks -Construction of rock catchment -Construction of water pan -Livestock treatment -Hay harvesting & storage -Provision of donkey -Conditional cash grants to women & youth -Social funds for elderly -Equip local health center Construction of staff quarter for nurses -Provision of laboratory services at the health centers		Oct-Dec2012 Jan-Feb2013 Jan-Mar2013 Oct-Dec2012 Jan-2013 Oct-Dec2012 Oct-Dec2012 Oct-Dec2012 Oct-Apr2013 Jan-2013 Jan-Apr2013 Oct-Nov 2012-2013 Oct-Dec 2012 Apr 2013 Apr 2013	2MILLION BY FHK,MOH 50,000 BY EMC & NEEMA. 1M BY NEEMA,CIFA &JICA 1M BY JICA 1.8M BY CIFA,JICA,PISP & FHK 5M BY JICA, FHK, PISP,GOK,CCS &DOM 1M BY CIFA & JICA 3.5M BY JICA 1M BY FHK. 50,000 BY GOK. 1M BY CIFA &ARIDL&S. 1M BY YOUTH FUND. 1M BY CARE 2M BY GOK 3M BY SOS &CIFA. 1MILLION BY GOK &SOS.	BONAYA.K GODANA.D WARIO.G CHWS INDIVIDUAL GROUPS ALL VILLAGES ALL VILLAGES CDC,LCD CDC,LCD CDC,LCD CAHWS INDIVIDUALS INDIVIDUALS ELDERS HEALTH CENTRE COMMUNITY	-Improved livelihood -Improved local skills on income generating activities -Reduced child mortality & improve health education among vulnerable groups -Improved enrolment, performance & retention rates -Improved social welfare & household economy

Community Readiness To enhance community readiness to respond to drought	-Training on water management committees on basic documentation & financial management -Training of range users association /Environmental management custodian -Capacity building for school management committees -Construction & rehabilitation of Market structures -Fencing of water resources -De-silting of water pans & expansion -Protection & rehabilitation of shallow wells -Training & strengthen & establishment of livestock disease surveillance committee -Formation & training of early warning information committees & linkage & dissemination -Capacity building for borehole operators -Improve livestock br&ing system -Construct feeder roads & communication system		MarCH 2013	500,000 BY NEEMA GOK.	WATER COMMITTEE	-Respect & value the traditional laws/order that governs social-economic-environmental issues -Improved water resource availability, accessibility for domestic & livestock use -Improved management of wet & dry season grazing areas -Improved maintenance & repair of boreholes -Reduce response time to emergencies -Improved livestock Market system
			Apr 2013	500,000 BY NEEMA	GRAZING COMMITTEE.	
			Dec 2012	100,000 BY GOK	SCHOOL MANAGEMENT COMMITTEE. COMMUNITY.	
			Jan -2013	1MILLION BY ILRI	WATER COMMITTEE COMMUNITY COMMUNITY	
			Dec- 2012 Oct-2012	1MILLION BY NEEMA. 1.5MILLION BY JICA	WATER COMMITTEE COMMUNITY COMMUNITY	
			Oct-2012	2MILLION BY CIFA	COMMUNITY	
			Jun-2013	2MILLION BY KARI &ILRI	CAHWS.	
			Oct-2012	500,000 BY GOK &NEEMA.	COMMUNITY	
			Nov-2012	500,000 BY JICA.	CDC	
			Jan-MarCH 2013 Oct-Dec 2012	2MILLION BY CIFA & GOK. 1MILLION BY DOM & PISP	CAHWS COMMUNITY	
PME&L To enhance community PME&L system	-Meeting with committees -Collecting of baseline data -Development of indicators -Visit project sites -Learning & documentation -Capacity building		Oct-2012	50,000 BY CIFA.	ELDERS	-Developed simple community monitoring framework -Improved documentation & record keeping skills -case studies & evidences of change
			Oct-2012	200,000 BY PISP	YOUTHS	
			Nov-2012	200,000 BY JICA	COMMUNITY	
			Oct-2012	250,000 BY CIFA.	COMMUNITY	
			Nov-2012	500,000 BY PISP.	YOUTH	
			Nov-2012	500,000 BY JICA	COMMUNITY	

Objective	Activities	Target	When	Resource & sources	Responsible Person	Expected Change & Result
To prevent conflict	-Constant political interaction & dialogue forum between youths, elders & women -Dissemination of conflict early warning information for early action	Qilta & Garkarsa	Oct-Dec 2012	500,000 BY JICA & PISP.	ELDERS & YOUTH GROUPS	Open forum for political discussion Increased preparedness
			Oct-Dec 2012	50,000 BY COMMUNITY	ELDERS	
To mitigate effect of conflict	-Disarmament	Qilta Korma Location	Oct-Dec 2012	BY GOK	COMMUNITY	Increased human security
To enhance individual survivability	-Recruitment & training of police reservists -Provision of bullet proof vests -Exp& mobile communication network -Train on life saving/combat skills -Lobby for basic right to life -Peace building initiatives among youth, women & elderly -Construct road network		Dec-2012	BY GOK	LOCAL LEADERS	-Enhance human security -Enhance communication & response -Improved knowledge on basic right to life
			Dec-2017 Dec-2012	5.5MILLION BY GOK BY MOBILE OPERATERS	LOCAL LEADERS LOCAL LEADERS	
			Dec-2012 Dec-2012	3.5M BY GOK &JICA 1MILLION BY PISP &CIFA	CDC LOCAL LEADERS	
			Oct-Dec 2013 Dec-2012	1MILLION BY CIFA. 2MILLION BY GOK	YOUTH,ELDERS &WOMEN LOCAL LEADERS	
To enhance community readiness to respond to conflict	-Strengthened traditional ritual sacrifices system -Improve response & rescue system -Strengthened traditional conflict resolution mechanism & coordination with the government -Support cultural events		Nov-Dec 2012	50,000 BY COMMUNITY	ELDERS	-Respect & value the traditional laws/order that governs social-economic -Market system
			Nov-2012	100,000 BY GOK	LOCAL LEADERS	
			Nov-2012	100,000 BY GOK	ELDERS	
			Dec-2012	50,000 BY COMMUNITY	YOUTH & ELDERS.	
PME&L To enhance community PME&L system	-Meeting with committees -Collecting of baseline data -Development of indicators -Visit project sites -Learning & documentation -Capacity building		Oct-2012	500,000 BY CIFA	ELDERS	- Developed simple community monitoring framework - Improved documentation & record keeping skills - Improved documentation, case studies & evidences of change
			Oct-2012	200,000 BY PISP	YOUTHS	
			Nov-2012	200,000 BY JICA	COMMUNITY	
			Oct-2012	100,000 BY CIFA	COMMUNITY	
			Nov-2012	100,000 BY PISP	COMMUNITY	
			Nov-2012	200,000 BY JICA	COMMUNITY	

COMMUNITY ACTION PLAN (CAP) FOR CMDRR – JIRIME

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
Hazard Prevention EDUCATION To support the education of bright & needy students both in high schools & colleges to successfully complete their studies without interruption To enhance accessibility to basic education through development of education infrastructure	Identify number needy & eligible student for bursary allocation in Jirime(330 students). Lobby for increase of bursary allocation from CDF committee & MOE. Set up eligibility criteria & ensure equitable distribution & targeting	Kshs 12.06 million, FHI, CDF Committee, MOE	Marsabit central district, Saku constituency	Starting 2012 till 2017	District Education Bursary committee, CDF Committee, Member of Parliament, Community	330 students supported with fees High number of completion rate achieved Illiteracy level reduce Fees burden reduced on the parents
	To pay part of college fees for 55 students in middle level colleges. Offer bursary for 22 university student from needy background Construction & establishment of fully functional mixed days secondary school Posting of teachers Provision of educational materials	MOE, CDF Committee, Higher Education Loans Board	Jirime Location	2012-2017	Director of education, CDF committee, Parents, Chief executive officer of HELB	77 both college & university student successfully completed their education More professional & skill manpower produced in location More children access affordable high school education More employment created Number of youth involved in substance abused reduced
Hazard mitigation Emergent of urban related crime h&le or tackle through establishment of community policing & exposure criminals & offered justice system to face punishment	Increase surveillance & patrols with effort of apprehending criminal Strengthen information sharing system with security agents. Reinforce strong penalties on culprit Conduct swift meeting to deter fatal attacks triggered by revenge missions Increase police patrol provide backup for KPR & PC	Kshs 1.2m Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA, PISP	Jirime location Township, Gadamoji, Hula-Hula	By 2013 & as soon as cases reported	Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA, PISP,	-Criminal gang identified & reported to government security agent -Arrest conducted & culprits punished -Community policing initiative functional Level of crime goes down

	Carry out quarterly leaders meetings to strengthen community relationships.	Kshs 1.6 m Community & their leaders, Peace committee, political leaders(MPs & Councilors) Provincial administration – DC, Police, District security committees ,NDMA NGOs – PISP, JICA	Jirime Location, township, Dakabari cha, Karare, division,	By 2013 & should be continued until lasting peace between communities achieved	Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees ,NDMA, PISP, JICA	-Community leaders meetings to strengthen community's coexistence trust , accountability & transparency achieved -community relationships strengthen.. -Leaders commitment not to incite the communities against each other obtained.
Water Support to access adequate & affordable quality & clean water for Jirime location by 2017	Establish water piping system from main government managed supply system to Jirime De-silting of Haro Bota dam	Kshs 3.5m Goal kenya, PISP, NWSB, NDMA, ENDDA CDF, CIFA, FHI Kshs 3.5m ENDDA, CDF, County government , NDMA, ENDDA, JICA/PISP	Jirime	2013-2017	DWO, CDF committee, PISP/JICA leadership, NDMA Board	Rural water supply system established. Resident of Jirime access clean & adequate water Dam de-silted. Distance women to access water Time to look for water reduced Health status of community improved
	Support water harvesting initiative through supply plastic tanks. Purchase distribute & install 220 roof catchment tanks of 10,000L	Kshs 17,600,000 Goal-Kenya/PISP, NDMA, CIFA, FHI, ENDDA, NWSB	Jirime Location	By 2013	Goal-Kenya/PISP, FHI, CIFA leadership, DWO, NDMA Board	Plastic purchased install for the beneficiaries Household water problem addressed, Hygiene & sanitation attained.
	Expansion of Badasa crater (10,000litre)	Kshs 3.5million NWSB, ENDDA, Community, CDF, NDMA NGOs – PISP, JICA, UNICEF	Jirime location	By 2013	DWO, NDMA Board, PISP/JICA, UNICEF Leadership	Crater expanded by 10,000litres People & livestock more water Reduced water time spend in accessing water & pasture for livestock Improve hygiene & sanitation
	De-silting of Haro Gumi Dama	Kshs 3.5million Community, CDF, NDMA, CIFA, FHI, Goal-Kenya/ PISP, German Agro Action	Jirime	By 2014	CDF Committee, NWSB, NDMA Board/Drought Management Officer, RedX, FHI, Goal-kenya/PISP CEOs	Dam de-silted Increase water volume Water problem lessen Reduced walking distance for livestock to water point

	Rehabilitation of Dadacha Hulugo well	Cost to be determine later. Community, CDF, NWSB, NDMA PISP, JICA, UNICEF	Jirime	By 2014	CDF Committee, DWO, PISP/JICA/UNICEF, Goal-kenya CEOs	Well rehabilitated & people access clean water
	Construction of Bios & filter system Purchase of two - 24,000litres water tanks	Cost to be determine later. CDF, NWSB, NDMA, ENNDA, Goal-kenya/PISP, JICA/PISP,	Jirime	By 2013	CDF Committee, DWO, Drought Management Officer/NDMA Board, NGOs CEOs	tanks, Bios & filter system purchased & install People access clean & quality water. Reduce incidences of water borne
Environment To enhance the practice & knowledge of environmental protection & conservation in Jirime location by 2017	Planting of 20,000 trees seedling at high altitude of the location Management of trees to increase survival rate	Kshs 0.5million KFS, Community, Chief, Education institutions	Milima tatu, Fulesa hill	By 2012	KFS district officer, chiefs, Division education officers/schools heads	20,000seedling planted Survival rate of trees seedling planted is by 80% Positive change of people's attitude toward environmental conservation
	Posting of clinical officers, nurses & laboratory technologist	GOK- Ministry of Medical services, health & sanitation, Community	Arapal community	By 2013	Community Health Management committee, Ministry of Health – Medical officer of health & local chief & councilor	-Qualified medical personnel posted to Arapal community - Quality medical services availed at Arapal community - Cases of referral to other health facilities reduced - Immunization rate for children increased to 80%
	Conduct 6 training in year for EMC on good Environmental management practices	Kshs 0.75million, KFS, FHI, PISP, CIFA, JICA, committee	Jirime	By 2013	KFS district officer, FHI, PISP, CIFA, JICA CEOs	EMC trained on environmental conservation Reduced overexploitation of forest resources
Health To improve accessibility to affordable basic health care both preventive & curative services	Construction & equipping of dispensary	Kshs 15million MOH, NDMA, CDF	Manyatta Daba	By 2013-17	District Medical officer of Health, CDF, community, NDMA- DMO	-Fully functional dispensary constructed. People access health service within reasonable distance and -Improve health status of community
	Posting of medical personnel	Cost to be yet determine, MOH	Manyatta District	By 2013-17	District medical of health, Community elected leadership to make to follow	Medical personnel posted to the dispensary

Social Infrastructure To promote development of various social infrastructure system to 11 villages of Jirime location by 2017	Carry out rural electrification exercise to 11 villages	Ksh 10million Kenya power & Lighting Company(KPLC), KenGen, GOK	Jirime Location	By 2013	KPLC & KENGEN CEOs, Ministry of energy, Member of parliament	-11 villages connected to electricity -School children study with ease -Reduced respiratory ailment associated with inhaling kerosene smoke or gas
	Rehabilitation & expansion of Salgi DiMaroad	Kshs 1 Million CDF, Ministry of roads, Rural Roads Board, NGOs,	Salgi DiMaroad	By 2013	Community, District Roads Engineer, Rural roads Engineer, CDF committee	-Roads constructed & exp&ed -Improved accessibility & usage
	Expansion of Ali Wario Road to Haro Gumi	Kshs1million CDF, Rural roads Board, NDMA, Ministry of Roads	Haro Gumi	By 2013	CDF committee Rural roads engineer, District Roads Engineer	-Road exp&ed & improved accessibility -More motorist can plight that road.
	Expansion & murram of Fulesa-Kubi banya Road	Kshs 3million CDF, Rural roads Board, NDMA, Ministry of Roads, community	Fulesa-Kubi banya	By 2013	CDF committee Rural roads engineer, District Roads Engineer, area chief & councillor	-Road exp&ed & murram -Improved usage & accesibility
	Construction of livestock Market at Haro Bota Construction of leather mini tanning facility	Kshs 5million Department of livestock, CDF, NDMA, JICA/PISP, county council Kshs 3million			By 2013-2015	CDF committee, DLPO, Clerk to council Marsabit, JICA/PISP CEO, DMO(NDMA)
Capacity building To strengthen Entrepreneurial of various organized groups. Enhanced community initiative to recognize & exploit abundantly natural resources in Arapal	Conduct two training in a year to groups in 11villages in Jirime location	Kshs 2.2million CDF, NDMA, PISP, JICA,, Goal-Kenya, FHI, CIFA, community	Jirime	2013	CDF Committee, DMO, PISP/JICA, Goal-Kenya, CIFA/CEOs, National youth enterprise fund & national women enterprise fund	-Groups enterpreneurial skilled enhanced -Accessibility to grants & loans improved -Improved incomes of individual groups members

Safety Net To promote social safety net for the less privilege members of Jirime community	Construction of 220 semi-permanent houses for the homeless in all 11 villages	Kshs 22million CDF, Red Cross, GOK(ministry of special programme)	Jirime	By 2013	CDF Committee, county government, Red Cross Kenya, Ministry of special programme	-220 homeless persons provided with shelter -Beneficiaries dignity restored -Health status of homeless people improved
	Initiate cash transfer programs for less privilege persons @ ksh 3,500 person per month	Cost to be determine later , HSNP, ministry of gender , ministry of special program	Jirime	By 2012-2017	Care-Kenya International UK Aid, HelpAge international/PISP, Equity Bank-Kenya	-More less privilege people household food security -Beneficiary ability to pay school fees for their children improved -Improved access to medical service -Enable beneficiaries to start entrepreneurial initiative
Food Security/agriculture To increase agricultural productivity & animals harvesting & storage to cushion household food insecurity & livelihood losses at the time of severe hazards in Jirime by 2017	Initiate hay harvesting ventures, Construction of 3 hay stores	Ksh 3.55million, MOLD, CDF , NDMA, NGOS, County government	Jirime	By 2013	DLPO, Ministry of special program, NDMA, PISP/JICA, FHI CEOs, Community,	-Hay harvesting initiative is operational -Hay stores constructed -Drought impact on breeding stock lessen, -People accessed milk during severe drought
	Purchase & distribute 11walking tractors & 110 oxen to 11 village	Kshs 4.565million Ministry of Agriculture, CDF, NDMA, CIFA, PACIDA, county government	Jirime	By 2013	District Agricultural Officer, District Veterinary Officer, DMO, CIFA, PACIDA CEO, Governor/Clerk to Marsabit council	-Walking tractors & oxen purchase distributed to beneficiaries -Acreage plow increased -Crops yield increased -Household food security improved
	11 green house facilities for identify community members	Kshs 2.86million , MOA, CDF, NGOs county government NDMA, ministry of Northern Kenya Development & other arid & semi –arid I&	Jirime Jirime	By 2013	DAO, NGOs –CEOs, DMO, PS Ministry of northern kenya & other arid & semi-arid I&	11 green houses distributed to identified community Green house farming functional Household food security of beneficiaries improved

	Purchase of poultry incubators Construction of 6 poultry houses	Kshs 3.27 million, Ministry of livestock Development, PISP/JICA, FHI, county government, PACIDA, CIFA	Jirime	By 2013	DLPO, PISP/JICA, FHI, CIFA, PACIDA CEO Governor	Incubators purchase & distributed, Six poultry houses constructed, Increased accessibility of poultry products, Improved family income of targeted beneficiaries, Parents ability to pay school fees enhanced
	Initiate Production of Aloe in 11villages Jirime	TBD, community , JICA/PISP, MO&MA,	Jirime	By 2012	DAO, Area leaders(Chief& councilors, DMO	Aloe production started Farmers earned income sell Aloe products, Aloe used by Local for medicinal purposes
	Purchase & distribution of certified seeds to farmers	TBD, Ministry of Agriculture, NDMA, CDF, German Agro Action	Jirime	By 2012	DAO, CDF Committee, DMO, Community	Certified seeds provided to farmers to plant during rainy season
Hazard Prevention (Conflict/Security) To strengthen capacity of community's institutions in maintaining law & order & peaceful coexistence	Retraining of Kenya Police Reservist(KPR) Conduct regular patrols Conduct periodic audit of KPR activity or work to enforce discipline Give incentives to KPR eg provision complete police attire	Kshs 19.125million, ministry of internal security, Community, Uwiano, NDMA, NGOs	Marsabit central (Jirime location,	By 2013-2017	Community & Peace committees, District security & intelligence committee(DC,OCP D,DCIO & Regional district representatives of NSIS), NGOs, ,NDMA	-Intercommunity Kenya Police reserve meetings, engagement & patrols enhanced. -Community engagement with the security organs in the location/districts enhanced
	Construction & equip of a post for administration police officers Construction of a 3-room office for the area chief	Kshs 1.5million County commissioner, county government, CDF committe, NGOs , NDNMA CDF, NGO, Community	fulesa	By 2013	Chief Inspector Administration police, DC, Community, CDF committee	-A functional administration police post established Police officers posted Chief's office built & operational Improved service delivery & community now are served better

	Formation of peace committee in Jirime Location Training of peace committee	Ksh 400000 Ministry of Internal Security CEWARN, NDMA, PISP, FHI	Jirime Location	2013	DC, OCPD, DCIO, NDMA, FHI, PISP, Community	peace committees trained on conflict early warning systems. -Peace Community formed PC trained on conflict prevention & peace building skills Incorporated in the larger District Peace Committee Incidence of crime reduced in Jirime location
Hazard mitigation Emergent of urban related crime h&le or tackle through establishment of community policing & exposure criminals & offered justice system to face punishment	Increase surveillance & patrols with effort of apprehending criminal Strengthen information sharing system with security agents Reinforce strong penalties on culprit Conduct swift meeting to deter fatal attacks triggered by revenge missions Increase police patrol provide backup for KPR & PC	Kshs 1.2million Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP	Jirime location Township, Gadamoji, Hula-Hula	By 20213 & as soon as cases reported	Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP,	Criminal gang identified & reported to government security agent -Arrest conducted & culprits punished -Community policing initiative functional -Level of crime goes down
	Carry out quarterly leaders meetings to strengthen community relationships.	Kshs 1.6 million Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP, JICA	Jirime Location, township, Dakabaricha, Karare, division,	By 2013 & should be continued until lasting peace between communities achieved	Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP, JICA	Community leaders meetings to strengthen community's coexistence trust, accountability & transparency achieved -Community relationships strengthen.. -Leaders commitment not to incite the communities against each other obtained.

COMMUNITY ACTION PLAN (CAP) FOR CMDRR – DAKABARICHA LOCATION

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
Hazard Prevention EDUCATION To support the education of bright & needy students both in high schools to successfully complete their studies without interruption from Dakabaricha location by 2017 To enhance accessibility to basic education through development of education infrastructure in Jirime location	Provide bursary grant for 4 years to 100 bright & needy student in Dakabaricha Lobby for increase of bursary allocation from CDF committee & MOE. Set up eligibility criteria & ensure equitable distribution & targeting	Kshs 10 million, FHI, CDF Committee, MOE, community	Dakabaricha location, Saku constituency bursary fund	Starting 2012 till 2017	District Education Bursary committee, CDF Committee, Member of Parliament, Community, FHI CEO	-100 students supported with fees for four years -High number of completion rate achieved -Illiteracy level reduce -Fees burden reduced on the parents
	Purchase of 6acre l& for primary school Construction of 2 classroom & 4 primary school blocks Construction 3 block & equipping of polytechnic institution Construction of 4 blocks for polytechnic tutors	shs 13.2million MOE, CDF, NDMA, NGOs Ksh 7.9m CDF, NDMA, NGOs, County Govt, Ministry of Development of northern Kenya &, county govt	Matarba & Wako Jaldesa Mataarba, Dakabaricha	2013 By 2014	Director of education, CDF committee, Parents, Chief, DMO, NGOs –CEOs Ministry of higher education, CDF Committee, NDMA, DMO, Governor	-More children enable to access basic education. -Improved school persons -Relief burden from parent in meeting all cost putting up school facilities -Fully functional polytechnic established. Skills development of local youth enhanced -Reduce number youth idling & substance abuse minimize -Entrepreneurial knowledge impacted
	Purchase of relevant of school textbooks & laboratory equipment saku mixed secondary school	TBD MOE, Community, CDF, NGOs	Saku Mixed day secondary school	By 2013	CDF Committee, District Education officer, Teacher Parent Association, school Board of governors	-Standard laboratory with all necessary equipment established -Relevant books supplied -Improve school performance realized
	Construction of 4 classroom, & fully equipped computer laboratory	TBD MOE, CDF, NDMA, NGOs, Community	Saku Mixed day secondary school	By 2013	CDF Committee, District Education officer, Teacher Parent Association, school Board of governors	-Four classroom & computer lab constructed & equipped -Computer skills enhanced to student -Improve school performance on science subjects

	Construction of 2 classes for Aprimary school & 2 for secondary school	TBD MOE, CDF, NDMA, NGOs, Community	Dakabarich a(saku) secondary school, KiwanJ&eg e primary school	By 2013	CDF Committee, District Education officer, Teacher Parent Association, school Board of governor	-Classrooms constructed for both primary & secondary schools -More enhanced children admissions to school -Reduce level of illiteracy in Dakabaricha location
Water Support access to adequate & affordable quality & clean water for Dakabaricha location by 2017	Purchase & distribute 25 tanks of capacity or volume 10,000litres to 25 villages Purchase & distribute 820 tanks of capacity or volume 1,500 litres	Kshs 3m Goal-kenya/PIS P.NWSB, NDMA, ENDDA CDF, CIFA, FHI Kshs 6.5million, ENNDA, CDF, County government , NDMA, ENDDA, JICA/PISP	Galm, Golompo, Mataarba, Goro Mato Dakabarich	2013	DWO,CDF committee, PISP/JICA leadership, NDMA Board/DMO, PACIDA, CIFA, ENNDA	-25 tanks purchase & distributed to 25 villages -820 small tanks purchased & distributed to 820 families for rain water harvesting -Resident of Dakabaricha access clean & adequate water -Improved hygiene & sanitation of the community -Time to look for water reduced -Health status of community improve
	Rehabilitation & expansion of 5 water pans	Kshs 15million Goal-kenya/PIS P.NWSB, NDMA, ENDDA CDF, CIFA, FHI	Mataarba, WakoKeyat e, Wako Jaldesa, Jilo Tona, Manyatta Konso	2013-20 15	DWO,CDF committee, PISP/JICA leadership, NDMA Board/DMO, PACIDA, CIFA, ENNDA	-5 water pans de-silted & exp&ed, -More water access both by livestock & human -Improved hygiene & sanitation of the community -Reduced time spend by water looking for water
Environment To enhance the practice & knowledge of environmental protection & conservation in Jirime location by 2017	Planting of 19,000 trees seedling in homestead & at high altitude of the location Management of trees to increase survival rate	Kshs 0.57million KFS, Community, Chief , Education institutions	Dakabarich a	By 2013	KFS district officer, chiefs , Division education officers/ schools heads	-19,000seedling planted -Survival rate of trees seedling planted is by 80% -Positive change of people's attitude toward environmental conservation
	Establishment of tree nursery community managed plots to raise to seedling for continuous supply	Ksh 1.5million Community , KFS, NGOs,	Goro Mato, Dakabarich a, south Mataarba	By 2013	District KFS officer, community, NGOS	-Knowledge environmental -conservation improved -Agro-forestation enhanced -Source of income for individual managing the nursery

	Construction 100gabions for soil conservation Construction of terrace through food for work by 1000 people	Kshs 9.9million, CDF, MO&MA, Community, NGOs	Dakabarich a Location	By 2013	CDF Committee, Drought Management officer, NGOS. DAO,	-Improved soil conservation initiative, -Adapt good farming food practices Community members access food
Health To improve accessibility to affordable basic health care both preventive & curative services in Dakabaricha by 2017	Construction of 200 pit latrines in Dakabaricha villages	Kshs 3million MOH, Ministry of public health & sanitation NDMA, CDF	Dakabarich a	By 2013-17	District Medical officer of Health, CDF, community, NDMA- DMO	Total free open defecation achieved Improved hygiene status of community Reduce incidence of diseases & contamination of water sources during runoff
	Purchase of I& & construction of health Centre & lab in Dakabaricha Posting of medical personnel	TBD, MOH, CDF, Community, NDMA, county government	Dakabarich a	By 2013-17	District medical of health, DMO, Governor, Community elected leadership to make to follow up	-L& for construction of health center purchased -Health center &laboratory constructed &equipped -medical personnel posted
	Purchase of medical supplies to kiwanJ&ege dispensary	TBD, MOH, Diocese of Marsabit(DOM), NDMA,	Dakabarich a	By 2013	Medical officer of health, DMO, CDF Committees, NGOs	-Medical supplies provided to KiwanJ&ege
Social Infrastructure To promote development of various social infrastructure system to Dakabaricha location by 2017	Construction of farmers agricultural training Centre	Ksh 1million Ministry of Agriculture, CDF, NDMA, NGOs, County government	Dakabarich a	By 2013	CDF Committee, DAO, DLPO DMO, Governor, CEOs of various NGOS	-Farmers training Centre established -Enhanced farmers knowledge on good crop & livestock husb&ry -Employment created for the locals Increased food production
	Construction of culvert & murram of weather roads	Kshs 35 Million CDF, Ministry of roads, Rural Roads Board, NGOs, NDMA	Dakabarich a	By 2013	Community, District Roads Engineer, Rural roads Engineer., CDF committee, DMO	-Roads constructed & exp&ed -Improved accessibility & usage

Livestock Marketing To promote efficient & sustainable livestock value chain	Construction of elaborate livestock Marketing system Pilot of heifer exchange program Improve animal health services	TBD, PISP/JICA, Ministry of Livestock Development, NDMA, County Council of Marsabit, Community	Dakabaricha, Jirime, Gadamoji division, Karare division, Central division	By 2012-2017	JICA/PISP, DMO, DLPO, Clerk to Council	Community embraced commercially livestock keeping Heifer exchange program embraced & functional
Capacity building To strengthen entrepreneurial of various organized groups by 2017	Conduct three trainings in a year to 60 persons of organized groups on management & entrepreneurial skills	Kshs 0.6million NDMA,PISP,/JICA, Goal-Kenya, FHI, CIFA, community	Dakabaricha	2014	DMO, PISP/JICA, Goal-Kenya, CIFA/CEOs, National youth enterprise fund & women enterprise fund	-Groups entrepreneurial skilled enhanced -Accessibility to grants & loans improved -Improved incomes of individual groups members
	Formation & training EMC in Dakabaricha	Kshs 0.3million, NDMA, NEMAprovincial administration, PISP, FHI,	Dakabaricha	By 2013	DMO, DC, FHI & PISP, NEMA	-EMC formed & trained -Reinforced environmental management practices -Sensitize to communities continuous to afforestation
Safety Net To promote social safety net for the less privilege members of Dakabaricha community	Construction of 20 semi-permanent houses for the homeless in all 11 villages	Kshs 1.4million CDF,Red Cross, GOK(ministry of special programme)	Dakabaricha	By 2013	CDF Committee, county government, Red Cross Kenya, Ministry of special programme	-20 homeless persons provided with shelter -Beneficiaries dignity restored Health status of homeless people improved
	Initiate cash transfer programs for 1000 less privilege persons per month	Ksh 3.5million HSNP, ministry of gender, ministry of special program	Dakabaricha	By 2012-2017	Care-Kenya International UK Aid, HelpAge international/PISP, Equity Bank-Kenya	-More less privilege people household food security Beneficiary ability to pay school fees for their children improved -Improved access to medical service -Enable beneficiaries to start entrepreneurial initiative
	Purchase of 300camels & 600 shoats & distributed to potential beneficiaries	Kshs 18million, CDF PISP, PACID&MA, CIFA, Ministry of Special program	Dakabaricha	By 2012-15	CDF Committee, PACIDA, PISP, CIFA-CEOs, DMO, PS Special program or his designate	-300 camels & 600 shoats purchased & distributed -improved household food security of beneficiaries Improved income through of milk

Food Security/agriculture To increase agricultural productivity & animals harvesting & storage to cushion household food insecurity & livelihood losses at the time of severe hazards in Dakabaricha by 2017	Initiate hay harvesting ventures, Construction of 3 hay stores	Ksh 3.55million, MOLD, CDF, NDMA, NGOS, County government	Jirime	By 2013	DLPO, Ministry of special program, NDMA, PISP/JICA, FHI CEOs, Community,	-Hay harvesting initiative is operational, Hay stores constructed -Drought impact on breeding stock lessen, People accessed milk during severe drought
	Purchase & distribute 3 farm tractors, 4 walking tractors & 300 oxen to selected farmers Purchase & distribute 10,000certified assorted crop seed & Napier grass cuttings	TBD Ministry of Agriculture, CDF, NDMA, CIFA, PACIDA, county government	Dakabaricha	By 2013	District Agricultural Officer, District Veterinary Officer, DMO, CIFA, PACIDA CEO, Governor/Clerk to Marsabit council	-Walking tractors & oxen purchase distributed to beneficiaries -Acreage plow increased -Crops yield increased -Household food access enough pasture
	Purchase 3 green house facilities for identify community members	Kshs 0.66m, MOA, CDF, NGOs county government NDMA, ministry of Northern Kenya Devt &	Dakabaricha	By 2013	DAO, NGOs –CEOs, DMO, PS Ministry of northern kenya & other arid & semi-arid l&	3 green houses purchase & distributed to identified community Green house farming functional Household food security of beneficiaries improved
	Purchase of a day old chicks for 20 community groups,	Kshs 3.27 m, Ministry of livestock Devt, PISP/JICA, FHI, county govt, PACIDA, CIFA	Dakabaricha	By 2013	DLPO, PISP/JICA, FHI, CIFA, PISP/JICA, CIFA, FHI, PACIDA CEOs Governor, DMO	20 household distributed to chicks Increased accessibility of poultry products, Improved family income of targeted beneficiaries Parents ability to pay school fees enhanced
Hazard Prevention (Conflict/Security) To strengthen capacity of community's institutions in	Construction of 2-room chief's office at Dakabaricha & administration police post in Jaldesa	Kshs 3million, ministry of internal security, Community, Uwiano, CDF, NDMA, NGOs	Dakabaricha & Jaldesa, Mataarba	By 2013	CDF Committee, Community District security &intelligence committee (DC, OCPD, DCIO & Regional district reps of NSIS), NGO, NDMA	Improved service delivery & security situation in areas

maintaining law & order & peaceful coexistence	Recruitment of 15 new Kenya Police Reservist(KPR) Construction & equip of a post for administration police officers	TBD Ministry of Internal security through Police Department & District commissioners office,NSIS, Community	Dakabarich, Mataarba, Jaldesa Manyatta Konso, Manyatta Galma, Golompo	By 2013	Chief Inspector Administration police, DC, NSIS regional representative, DCIO, OCPD, Community,	Kenya Police Reservist recruited & trained Incidence of crime reduced
	Re-active Peace committee in Dakabaricha Location & training them	Kshs0.3m Ministry of Internal Security CEWARN, NDMA,PISP,FHI	Dakabaricha,	By 2013	DC, OCPD, DCIO, NDMA, FHI, PISP, Community	Help to deter & reduce acts of criminology Improved surveillance on grazing yards
Hazard mitigation Emergent of urban related crime h&le or tackle through establishment of community policing & exposure criminals & offered justice system to face punishment	Increase surveillance & patrols with effort of apprehending criminal Strengthen information sharing system with security agents Reinforce strong penalties on culprit Conduct swift meeting to deter fatal attacks triggered by revenge missions IncreaSepolice patrol to provide backup for KPR &PC	TBD Community & their leaders, Peace committee, political leaders(MPs & Councilors) Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP	Dakabarich a Jirime location Township , Gadamoji, Hula-Hula	By 2013 & as soon as cases reported	Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP,	Criminal gang identified & reported to government security agent Arrest conducted & culprits punished Community policing initiative functional Level of crime goes down
	Carry out quarterly leaders meetings to strengthen community relationships.		Dakabarich a Jirime Location, township, Karare, division, Dirib Gombo, Songa	By 2013 continued until lasting peace between communities achieved		- Community leaders meetings to strengthen community's coexistence trust building, accountability & transparency achieved community relationships strengthen.. -Leaders commitment not to incite the communities against each other obtained.

COMMUNITY ACTION PLAN (CAP) FOR CMDRR – ARAPAL LOCATION

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
Hazard Prevention (Conflict) Peaceful coexistence & sharing of prime rangelands resources is promoted among pastoral communities of North-Horr, Marsabit North & Loiyangalani Districts by 2017	Training of 5 peace committee in North-Horr, Marsabit North & Loiyangalani Districts	Kshs 1 million (Community(PC) GOK /NGOS PISP, JIC&MA, Small arms & light weapon focal point Office of the president)	Arapal/Gas, Moite, Loiyangalani & North-Horr communities	Starting 2012 till 2013	Community(PC) GOK /NGOS PISP,JIC&MA ,Small arms & light weapon focal point Office of the president	-Number of Peace committees in five communities trained & operational -Reduced incidence of intermittent attacks due to increase& effective peace committees.
	Enhance security information pathways between community by improving information sharing(radio call frequencies harmonization)	KHz 500,000 Community(PC) GOK /NGOS – PISP,JIC&MA Small arms & light weapon focal point Office of the president)	Arapal/Gas ,Moite, Loiyangalani & North-Horr	By 2014	Community(PC) GOK /NGOS – PISP,JIC&MA Small arms & light weapon focal point Office of the president)	-Communities coexist peacefully - Incidences of community conflict reduced. -Inter peace committee's information sharing enhanced. -Community early warning information on imminent conflict enhanced -Information sharing with respective government agencies enhanced.
	Increase intercommunity/location joint Kenya Police Reservist surveillances	Kshs 200,000 Community & Peace committees, District security & intelligence committee(DC,OCPD,DCIO & Regional/ district representatives of NSIS), NGOs – PISP,JICA	Arapal/Gas , Moite, Loiyangalani & North-Horr	By 2013	Community & Peace committees, District security & intelligence committee(DC,OCPD ,DCIO & Regional district representatives of NSIS), PISP,JICA CEWARN	-Intercommunity Kenya Police reserve meetings, engagement & patrols enhanced. -Community engagement with the security organs in the location/districts enhanced
	Training Peace Committee on conflict early warning system	Kshs 400,000 Community & Peace committees, District security & intelligence committee(DC,OCPD,DCIO & Regional district representatives of NSIS), PISP,JICA,CEWARN	Arapal/Gas , Moite, Loiyangalani, North-Horr	By 2014		-5 peace committees trained on conflict early warning systems. -Jointly agreed conflict indicators developed & shared -Conflict triggers identified & accordingly shared among peace committees & concerned government agencies.

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
	Create peace resources (Boreholes, pans, fall back zones) within rangeland to reduce conflict & pressure over existing infrastructures.	Kshs 10 million Community/peace committees, GOK(Ministry of water, livestock, Northern Kenya development & other arid I&s, Ewaso Nyiro North Development Authority, NDMA ,Laisamis & North Horr constituency development funds(CDF),NGOs PISP,JICA,	Arapal/Gas , Moite, Loiyangalani, North-Horr	By 2017	Community/peace committees, GOK(Ministry of water, livestock, Northern Kenya development & other arid I&s, Ewaso Nyiro north development authority, NDMA ,Laisamis & North Horr constituency development funds(CDF),NGOs PISP,JICA,	-5-10 peaceful resources developed within common rangelands & at various strategic community sites. -Joint user & management teams selected & trained. -Jointly agreed user rules & guidelines developed
	Organize peace meetings between community & Peace Committees of warring & neighboring communities	Kshs 1 million Communities & peace committees, District security committees, NDMA ,Laisamis & North Horr constituency development funds(CDF),NGOs PISP,JICA,	Arapal/Gas , Moite, Loiyangalani, North-Horr	By 2013	Communities & peace committees, District security committees, NDMA ,Laisamis & North Horr constituency development funds(CDF),NGOs PISP,JICA,	-Community peace meetings held Joint Peace committees meeting held

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
Hazard mitigation communities having violent conflict with each other reconciled & harmonious relationship upheld in North-Horr, Marsabit North & Loiyangalani Districts by 2017	Facilitate recovery & return of rustled livestock's through voluntary community return or compensation	Kshs 1 million Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP,JICA	Arapal/Gas , Moite, Loiyangalani, North-Horr	By 2013 & as soon as cases reported	Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA ,PISP,JICA	- Stolen livestock returned or compensated. - Reduced incidences of attacks among neighboring communities. - Jointly agreed recovery compensation & penalties for default guidelines developed. -Relevant government departments enforce the Jointly agreed recovery compensation & penalties for default guidelines
	Joint quarterly leaders meetings to strengthen community relationships.	Kshs 2 million Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees ,NDMA NGOs – PISP,JICA	Arapal/Gas , Moite, Loiyangalani, North-Horr	By 2013 & should be continued until lasting peace between communities achieved	Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees ,NDMA NGOs – PISP,JICA	- Community leaders meetings to strengthen community relationships held. -Leaders commitment not to incite the communities against each other obtained.
	Establish community buffer zones in all the hot spot to avoid conflict escalation	Kshs 2 million Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA NGOs – PISP,JICA	Arapal/Gas , Moite, Loiyangalani, North-Horr		Community & their leaders, Peace committee, political leaders(MPs & Councilors) GOK – Provincial administration – DC, Police, District security committees, NDMA	-Community buffer zones in all the hot spot to avoid conflict escalation established. - Police post (ASTU) established at conflict buffer zone by government.

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
					NGOs – PISP,JICA	
	Establish common/joint facilities like boarding schools, health facilities & training facilities to strengthen community healing & reflection	Kshs 10 Million Communities & peace committees, District security committees, NDMA ,Laisamis & North Horr constituency development funds(CDF),Ministries of Education, Health & sanitation & medical services, Northern Kenya & development of arid I& NGOs PISP,JICA,UNICEF	Arapal/Gas , Moite, Loiyangalani, North-Horr	By 2017	Communities & peace committees, District security committees, NDMA ,Laisamis & North Horr constituency development funds(CDF),NGOs PISP,JICA,	- common/joint facility established between conflicting groups -Joint community learning & sharing of common resources to enhanced healing & reflection
Education St&ard of education is enhanced in Arapal community by 2017	Construction of five teachers houses	Kshs 3.5million Community, CDF, MOE, NDMA NGOS – PISP,JICA,UNICEF	Arapal primary school	2013-2017	School management committee, Ministry of education officers	-5 teachers houses constructed - 5-10 teachers accommodated in the school compound to facilitate longer learning hours & completion of syllabus -Continued supervision of learners by teachers.
	Posting of more teachers	GOK(Teachers service commission)	Arapal primary school	By 2014	School Management committee, District Education office, TSC district representative	No. Teachers posted to Arapal primary school.
	Construction of boarding facilities for both boys & girls to begin boarding for 100 (50 boys & 50 girls)children of pure pastoralists	Kshs 3.5m Community, CDF, MOE, NDMA NGOS – PISP,JICA,UNICEF	Arapal primary school	By 2014	School Management committee, District Education office	-Dormitory & other boarding facilities constructed for both boys & girls -About 100 pastoralist children admitted to the boarding facility. -About 100 pastoralist children retained in school during the term learning period.

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
	Procurement & installations of solar system for Arapal primary school	Kshs 1.2m Community, CDF, MOE, NDMA NGOS – PISP,JICA,UNICEF	Arapal primary school	By 2014	School Management committee, District Education office	-Solar lighting installed -Longer learning & study hours -More children complete & are admitted to secondary schools. -Common eye ailment among pastoralist children caused by studying in poor lighting reduced by 70%
	Construction of water infrastructures at Arapal primary school	Kshs 3 Million Community, CDF, MOE, Ministry of water & irrigation, Ministry of northern Kenya & other arid I&s, NDMA NGOS – PISP,JICA,UNICEF	Arapal primary school	By 2014	School Management committee, District Education office, Ministry of water office	-Water facilities constructed -Rainwater harvesting & facilities for water tankering enhanced. -Retention in school enhanced through water for school feeding programme
	Support dry I& farming through provision of 2 greenhouses to Arapal primary school	Kshs 500,000 Kshs Community, CDF, MOE, Ministry of water & irrigation, Ministry of northern Kenya & other arid I&s, NDMA NGOS – PISP,JICA,UNICEF	Arapal primary school	By 2014	School Management committee, District Education office, district agronomist	-School income enhanced. -Learning sites for pastoralist children & surrounding communities -School nutrition improved through provision of vegetables -Sale of fresh vegetables to pastoralist families living around the school.
Health Access to health services in Arapal community enhanced from the current 30% to 80% by 2017	Construction of well-equipped health facility in Arapal community	Kshs 5 Million Arapal community, AIC/GOK- Ministry of Medical services, health & sanitation, Community, PISP,JICA	Arapal Community	2012-2017	Community Health Management committee, Ministry of Health – Medical officer of health & local chief & councilor	- Well equipped health facility constructed & operationalized - Distance in accessing medical services reduced from current 50Km to 4 Km -Death amongst children & women due to lack of medical attention reduced. -Cases of referral to Gatab health center reduced. -Immunization rate for children increased to 80%

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
	Posting of clinical officers, nurses & laboratory technologist	GOK- Ministry of Medical services, health & sanitation, Community	Arapal community	By 2013	Community Health Management committee, Ministry of Health – Medical officer of health & local chief & councilor	-Qualified medical personnel posted to Arapal community. -Quality medical services availed at Arapal community -Cases of referral to other health facilities reduced -Immunization rate for children increased to 80%
	PriMary health care & extension services enhanced to the pastoralist population in Arapal community	Kshs 7 Million GOK- Ministry of Medical services, health & sanitation, AIC,PISP,JICA	Arapal community	By 2013	Community Health Management committee, Ministry of Health – Medical officer of health & local chief & councilor	-Weekly extension/outreach services established -Ambulance/vehicle for extension services purchased. -NO. Of pastoralist villages & satellite camps reached for health services. -Death by curable diseases among pastoralist reduced
Water Clean & safe water accessibility for both human, livestock & small scale farming for Arapal community improved by 2017	Bush clearing to facilitate accessibility to potential water sources in Arapal	Kshs 500,000 Kshs Arapal community, PISP,JIC&MA	Arapal Community	By Dec 2012	Arapal Community, Water users association, Local chief & councilor	-Path/road to source cleared -Access to both livestock & human water improved
	Topographical surveys of available water facilities & suitable sites	Kshs 150,000 Kshs Arapal community, PISP, JIC&MA, Department of survey & topography.	Arapal Community	By 2013	Community/ Water Users association PISP/JICA/water department	-Topographic survey conducted -Current Water & potential sites mapped -Arapal water map produced
	Design work for pipeline & piping system of Arapal water supply	Kshs 1 Million Arapal community, PISP, JIC&MA, Ministry of water & irrigation, Northern water service board, Laisamis CDF, Ewaso Nyiro North development Authority	Arapal Community	By 2013	Community/ Water Users association PISP/JICA/water department, Northern water service board.	-Pipeline designed work developed. -Water supply system for Arapal community done -Water availed to communities -Distance to water points reduced -Cases of water borne diseases reduced. - Proper management of water resource for sustainability developed.

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
	Construction of new water source from mt. kulal, reservoir tanks at source & distribution point (10tanks@ 10000L), approx. 18 km pipeline.	Kshs 22 M: Arapal community, PISP, JICA, Ministry of water & irrigation, Northern water service board, Laisamis CDF, Ewaso Nyiro North development Authority	Arapal Community	By 2014	Community/Water Users association PISP/JICA/water department, Northern water service board.	-Water supply systems completed -Water storage facilities constructed -Reduced water loss due to leakage. -Water pressure enhanced to avail to far needs.
	Building of cattle troughs	Kshs 500,000: Arapal community, PISP, JICA, Ministry of water & irrigation, Northern water service board, Laisamis CDF, Ewaso Nyiro North development Authority	Arapal Community	By 2017	Community/ Water Users association PISP/JICA/water department, Northern water service board.	-Water troughs constructed -Safe water for livestock use -More livestock can be watered at once hence time saving by herders
	Construction of earth Dams at Prime l&s (20000m3)	Kshs 6 Million Arapal community, PISP, JIC&MA, Ministry of water & irrigation, Northern water service board, Laisamis CDF, Ewaso Nyiro North development Authority	Arapal Community	By 2017	Community/ Water Users association PISP/JICA/water department, Northern water service board.	-Water pans constructed -Safe water for livestock use -More livestock can be watered at once hence time saving by herders -Collection of water when it rains -Dry period grazing rangel&s accessed.
	Rehabilitation of Tear fund supported pan	Kshs 3 M: Arapal community, PISP, JIC&MA, Ministry of water & irrigation, Northern water service board, Laisamis CDF, Ewaso Nyiro North development Authority	Arapal Community	By 2017	Community/ Water Users association PISP/JICA/water department, Northern water service board.	-Tear funds water pans rehabilitated. -Safe water for livestock use -More livestock can be watered at once hence time saving by herders -Collection of water when it rains -Dry period grazing rangel&s accessed.
Livestock Livestock production & Marketing in Arapal & environs promoted	Identify & establish livestock Market structure at strategic point	Kshs 2 Million Department of Livestock(DLPO), Kenya Livestock Marketing council JICA/PISP/FH/ Community	Strategic site	By 2014	Range users association, Kenya livestock Marketing council, District Livestock Production Officer(DLPO)	-1 strategic livestock Marketing structure constructed. -Pastoralist access to livestock Market increased

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
	Introduction drought tolerant animals species	Kshs 4 Million Department of Livestock(DLPO), JICA/PISP/FH/Community, Laisamis CDF	Arapal Community	By 2015	Community, District Livestock Production Officer(DLPO), Local leaders	-Drought tolerant & environmentally friendly animals species adapted -Enhanced livestock survivability during drought. Cross breeding results into more adopted breed
	Introduction of livestock auction days/Market days	Kshs 400,000Kshs Department of Livestock(DLPO), Kenya Livestock Marketing council, Marsabit county council & Arapal Community	Arapal Community	By 2017	Arapal community, Marsabit county council, Kenya livestock Marketing council, District Livestock Production Officer(DLPO)	-Pastoralist embraced voluntary destocking -Enhanced Market value livestock. -Reduce distance by herders to travel to other Markets. -Growth of opportunistic business enterprises.
	Provision of veterinary services & vaccination services	Kshs 800,000 Department of Veterinary, Kenya Livestock Marketing council, PISP,JICA & Arapal Community	Arapal Community	By 2013	Arapal community, Kenya livestock Marketing council, District Veterinary officer, Community Animal Health workers(CAHW)	-Veterinary personnel & drugs availed for pastoralist communities -Immunization coverage increased -Reduced livestock deaths that are caused by treatable diseases.
	Provide modern beehives equipment's for honey production	Kshs 600,000Kshs Department of livestock, PISP,JICA & Arapal Community	Arapal Community	By 2013	Arapal community, District livestock production officer,	Modern beehives & equipment procured. Apiculture practiced among pastoralist in Arapal
Natural Resource Management Enhanced community initiative to recognize & exploit abundantly natural resources in Arapal	Capacity building of existing groups & individuals to exploit & harvest resins& gums	Kshs 500,000 Kshs Ministry of environment & natural resources, Northern Keny&MA,PISP,JICA,KWS	Arapal	2012-2017	Community, Local groups & entrepreneurs, Ministry of environment & natural resources	-Commercially oriented resins/gum harvesting initiated -Groups & individuals trained in exploitation & harvesting of gum & resins. Income enhanced for the harvesting groups & individuals.
	Train on production, harvesting, processing & storage skills	Kshs 200,000 Kshs Ministry of environment & natural resources, Northern	Arapal	By 2013	Community, Local groups & entrepreneurs, Ministry of	Community members trained on harvesting & storage of gum & resins

Objective	Activity(What)	Resources & Sources	Location (Where)	Period (When)	Responsibility (Who)	Expected results/Change
		Keny&MA,PISP,JICA,KWS			environment & natural resources	
	Support community's initiative to start community managed conservancy	Kshs 3 M: Community conservancy groups, Ministry of environment & natural resources, Northern Kenya, tourism NDMA, PISP, JICA, KWS, Marsabit county council	Arapal	By 2017	Community conservancy groups, Local groups Ministry of tourism & KWS	-Community wildlife conservancy in place. -Community income & services enhanced from the conservancy. -Effective natural resource management enhanced.
	Forest conservation by strengthening community's forest scout	-Kshs 2 m: Community conservancy groups, Ministry of environment & natural resources, Northern Keny&MA, PISP, JICA, KWS, Marsabit county council	Arapal	By 2017	Community conservancy groups, Local groups Ministry of environment & natural resources & KWS	Forest protection scout in place. Controlled management & exploitation of forest resources Tree planting to replace cut trees.
Agriculture Community of Arapal encouraged to embrace to diversify livelihood production & engage in crop production	Provide agriculture extension services	Ministry of Agriculture	Arapal/Ngororoi	By 2014	Ministry of Agriculture, Community/Farmers group	-Agriculture extension officers posted -Extension services provided -Pastoralists in Arapal/Ngororoi embrace crop farming.
	Provision of oxen, ox plough & certified seeds to 100 farmers & farming groups & start up training.	Kshs 3 Million Ministry of Agriculture, NDMA, Ministry of Northern Kenya, PISP,JICA	Arapal/Ngororoi	By 2014	Ministry of Agriculture, Community/Farmers group	-Community's skills on the use of oxen to farm enhanced -Adequate household food security realized -100farmers take up agriculture as a viable livelihood.
	Introduction of drip irrigation/Green house	Kshs 2 Million Ministry of Agriculture, NDMA, Ministry of Northern Kenya, PISP,JICA	Arapal/Ngororoi	By 2014	Ministry of Agriculture, Community/Farmers group, Amiran	-Drip irrigation system set & operationalized -Green house farming initiated & farmers supported with needed skills -Household food security strengthened

COMMUNITY ACTION PLAN (CAP) FOR CMDRR – NGURUNIT LOCATION

Objective	Activities (What)	Resources & Sources	Location (Where)	Period (When)	Expected results/Indicators
HEALTH Enhance access to better health care for Ngurunit community	Construction of bigger health center with all the critical facilities or sectors in Ngurunit.	Kshs 30million Community, County Government, NGOs, FBOs, CBOs	Ngurunit	Starting 2013-till 2016	-Fully equipped healthy facility established/constructed. -Ngurunit Community has improved access to quality medical services at reduced distance. -Cases of deaths as a result of inadequate medical attention reduced. -Cost of sending patients to distant Marsabit or Maralal district hospitals reduced.
	Posting of medical personnel (clinical officer/DOctor, lab technologists, Nurses etc.)	Community, County Government, (MOH)	Ngurunit	Starting 2013-till 2016	-Have highly qualified medical personnel at Ngurunit health facility. -Community members access better improved medical services. -Incidences of deaths due to inadequate medical services reduce.
	Provision of enough & better medicine stock at Ngurunit health facility.	County Government, (MOH), NGOs & FBOs,	Ngurunit	Starting 2013-till 2016	-Reduced death rates (adults) & child mortality. -Reduced cost of referring to distant health facilities.
	Provision of ambulance services Conduct periodic mobile clinic outreach for semi settled pastoralists.	Kshs5 million Community Development Funds (CDF), County Government, (MOH) NGOs.	Ngurunit	Starting 2013-till 2016	-Improved frequency of outreach/mobile clinics to mobile pastoralist villages that are far from the health facility. -Increased rate in the number of immunized children. -Reduced mortality rate

COMMUNITY ACTION PLAN (CAP) FOR CMDRR – KORR LOCATION

OBJECTIVE	ACTIVITY(WHAT)	RESOURCES & SOURCES	LOCATION (WHERE)	PERIOD (WHEN)	RESPONSIBILITY (WHO)	EXPECTED RESULTS/CHANGE
Hazard prevention (Water) Providing viable & long term solution to the problem of water shortage for both human & livestock in Korr	Rehabilitation & improved management of boreholes. (Relatively cheaper option making maximum use of existing opportunities & resources.)	3.8million, NDMA, JICA/PISP, NWSB	Kurider, Saleh, Gob-Ore, Korr	2012-2015	DWO, PISP/JICA, CDF, CROSS, CIFA	-The four pans successfully rehabilitated & the residents of Korr to have functional boreholes that will sustain both humans & livestock. -Reduced distance access to water -Improved hygiene & sanitation
	Drilling & equipping borehole (mainly for livestock use)	5.5m, NWSB, NDMA, ENNDA, DOM	Urr borehole	2012-2013	DWO, JICA, PISP,DOM, COUNTY,NWSB, ENND&MA, COMMUNITY	The drilling of more boreholes to ease the stretch on the existing water points & water to be available for longer period after the rains.
	Desalting of pans-potential to provide water for both livestock & human need.	14million for 5pans, PISP/JICA, World Vision	Halisirwa, Urowen, Matarbah, Saleh	2012-2013	CDF, PISP, JICA, Red Cross, World Vision	More water to be available for use by the residents of Korr as the storage capacity of the pans to collect water will be increased when silt is removed.
	Provision of storage tanks (5-10,000 litres)	0.45million, World Vision, PISP, CDF Committee Germany Agro Action,	Korr & Balaah primary & Korr Market.	2012-2013	DWO, world Vision, PISP, DOM,	Water for domestic use that will be collected in the storage tanks to end burden on women & children who trek Long distances in such of water.
Hazard prevention (Livestock Market & production) Aims at establishing Participatory	Community Training on Change of attitude from subsistence to commercial. Link individuals or groups secondary Market players(large scale butchers)	1.8million, PISP, World Vision, Diocese of Marsabit (DOM)	Korr, Balaah & Halisurwa	2012-2014	PISP, JICA, FHI, FBO DLPO, DVO, NDMA	The pastoral community to break away from rearing livestock for reasons such as fame & prestige & the commercial engagement to enhance household & community income thus breaking away from the chain of poverty.

<p>plans based on long-term Market linkages between the livestock owners & traders to help diversify livestock owner's livelihood to promote resilient against other hazards.</p> <p>To realistically evaluate & establish sustainable a livestock enterprise in korr & its environs</p>	<p>Establishing & training of Livestock Market committee Provide security to deter highway b&its that scare always external livestock traders & access to better Markets (secondary Market).</p>	<p>0.3million, FHI, PISP/JICA, DLPO, NDMA</p>	<p>Korr, Balaah & Halisirwa.</p>	<p>2012-2014</p>	<p>COMMUNITY, JICA, PISP, NDMA</p>	<p>-Competitive pricing is guaranteed as the committee will put up checks & balances in the livestock Market. -The confidence of the herders in the value of their product is sustained. Skills & crucial information to be passed on the livestock owners. -Security main highway improved</p>
	<p>Campaigns & advertise korr Markets days in both electronic & print media.</p>	<p>0.6million, PISP/JICA, DLPO, FHI, NDMA</p>	<p>Korr</p>	<p>2012-2014</p>	<p>COMMUNITY, CDF, GOK, JICA/ PISP, NDMA</p>	<p>-Market Awareness creation to increase more buyers & sellers of the livestock & their products achieved. -Community embraced the commercial oriented livelihood to enhance diversification & meeting of other needs.</p>
	<p>Improving & construction of Korr Market infrastructure such as; -Make water extension point from Gaborre Borehole to Market(4km) -Holding pen for animals spend overnight(kraal like) -Animals loading place on tracks</p>	<p>2.5million, PISP/JICA&M A, World Vision, DLPO</p>	<p>Korr, Balaah & Halisirwa.</p>	<p>2012-2014</p>	<p>GOK, GOK, JICA, PISP, NDMA</p>	<p>-More livestock to get quick access to vet treatment. -Infrastructure & communication to provide social services that will curb unnecessary loss of lives & livelihood because intervention to various problems will be brought closer to the residents of Korr. -Business Stalls constructed -Market water supply developed -Animal kraal constructed -Loading structure in place</p>
	<p>Initiating activities that provide Grants for livestock traders & training on the use of banking facilities (5groups& 50 individuals).</p>	<p>5.5million, PISP, World Vision, DLPO</p>	<p>Korr, Balaah & Halisirwa.</p>	<p>2012-2014</p>	<p>COMMUNITY, JICA, PISP, NDMA</p>	<p>-Livestock traders to ability to purchase more L/stock for sell enhanced. -More local livestock traders became major plays in Markets is evident -Pastoralist savings culture & re-activated business initiative realized. -Creation of traders committee. -Financial training for livestock traders conducted -Guaranteed buyers assured in korr Market</p>

	<p>Construction of food & drinks center within the livestock Market center (10 in number)</p>	<p>0.7million, PISP, World Vision, Community</p>	<p>Korr Market</p>	<p>2012-2014</p>	<p>CDF, NDMA, DLPO, PISP/JICA, COMMUNITY</p>	<p>-More buyers & sellers to be attracted to the Market & be sustained. -Save vendors from constant relocation with their products in every close of business -Improved hygiene & quality of food & drinks with limited contamination as opposed when hawk around -Groups that uses the food & drinks center as an income generating venture, therefore creating employment opportunity for the residents especially women & the youth. -Items such as milk to find ready Market</p>
	<p>Initiating Heifer exchange programme.</p>	<p>To be determine later JICA/PISP, Community, DLPO</p>	<p>Korr, Balaah & Halisirwa.</p>	<p>2012-2014</p>	<p>GOK, JICA, PISP, NDMA.</p>	<p>-Pastoralist embraced the ideas of selling animals (bulls) as soon as mature. -Everyone stakeholders value for his or her products</p>
	<p>Construction of milk bars & equipping with cooling system.</p>	<p>4million, World Vision, GOK, county government, PISP</p>	<p>Korr Market</p>	<p>2012-2014</p>	<p>COMMUNITY, CDF, MOLD</p>	<p>-Preservation of the milk produced will be enhanced & reduces wastage. -Encourage both internal & external business opportunity for the people of Korr. -Income generating initiative enhanced. -The infants, expectant & breast feeding mothers could access milk at all times. -Reduce malnutrition case because children can access milkFor the human health, preservation of the milk produced will reduce cases of contamination & diseases associated with unhygienic h&ling of food.</p>
<p>Hazard Prevention (EDUCATION) Raising the st&ard of education in</p>	<p>Construction & equipping of public secondary schools.</p>	<p>To be determine later NDMA</p>	<p>Boys school at Korr. Girls school at</p>	<p>2012-2017</p>	<p>DEO, NDMA, CDF, DMC</p>	<p>-School drop outs will be reduced.</p>

Korr by supporting the provision the learning facilities & promoting educational drive.	Construction & equipping of 2 public primary school & 2 pre- primary school.	19.4million, CDF Committee, county government, World Vision, FBO	Korr, Balaah & Halisirwa.	2012-2017	DEO, CDF, DMC, GOK, NDMA, CDF, COUNTY, government	-School enrolment enhanced & all other interventions that come through the school guaranteed. -Reduced distance children walk to school already established schools -Reduced congestion in Balah &Korr -Improved access to basic education -Unskilled Employment will be created.
	Recruiting of trained teachers & posting them to the schools.	To be determine later; teachers' Service Commission (TSC), MOE, Board of governors (BOG)	Korr, Balaah & Halisirwa.	2012-2017	TSC, MOE	-Teacher per student's gap closed to avoid overstretching human resource available. -Employment secured for the trained teachers of Korr so that they sustain their own needs & that of the larger community. -Knowledge & skills to passed on sufficiently to the school going children/students.
	Increase education bursary kit & proper management of funds that will cater for Bursaries & scholarship for deserving children.	To be determine later; CDF, MOE, county Government	Korr, Balaam & Halisirwa.	2012-2014	CDF committee, DEO office, DMC, NDMA, county Government	-More bright but needy students educated. -Families that were initially stretching their income to provide school fees to be able to divert the funds to other needs of the home. -Relief burden from poor family of raising fees for children & granted their children completion of high school education. Save families from stressful circumstances of thinking about ways to raised fees.
	Organizing & Carrying out of Enrolment drive in Korr.	0.5million, PISP/UNICE F, MOE, Community	Korr, Balaah & Halisirwa.	2012-2013	Chief, PISP	-The children who have been left herding & in most cases vulnerable to diseases & drought to be saved by being taken to schools. -More children pastoral children enrolled in schools. More organizations, well-wishers will come forward to provide food & other support to the schools through the drive. -Health & other important information passed to the Korr community during the enrolment campaign.

	-Construction of school for children with special needs -Conduct village based recruitment drive of children with special needs Posting of teachers specialize with h&ling such cards	9.2million, CDF Committee, MOE, Catholic mission, Diocese of Marsabit	Korr	2012-2014	DEO, DMC, DCO GOK, NDMA, CDF COUNTY	-Children with special needs to find their place in the society & be brought closer to medical & other humanitarian attention. -Traditional beliefs & practices that despise against special children to be broken.
	-Construction & equipping of youth polytechnic. -Recruiting & posting of instructors or tutors Conduct students enrollment drive	8million, To be determine later; Ministry of sports & youth Affairs CDF Committee	Korr	2012-2014	GOK, DMO, NDMA, CDF, MOS&YA)	-At least 1 polytechnic to be constructed at Korr so that the youth could be engaged in meaningful activity instead of being idle & getting involved In destructive practices like drug abuse , raids & prostitution -Tutors posted by government -Students admitted
	Construction of Adult-literacy center	2million, GOK, NGOs	Korr, Balaah & Halisirwa.	2012-2014	GOK, DAEO, NDMA, CDF COUNTY	-Translation of manuals & other public publications to be made available to the community. -The community to be able to read & write & be able to conceptualize important information & lessons that will reduce vulnerability at individual & community level.

Hazard Prevention (Livestock Health) To improve access to veterinary service delivery & increase livestock survival & productivity.	Posting of vet officers	To be determine later; Ministry of Livestock Development (MOLD)	Korr, Balaah & Halisirwa.	2012-2013	MOLD, DVO-Marsabit South district	-More Veterinary personnel recruited & posted to Korr. -Regular mass L/stock vaccination campaigns activities carried out. -Outbreak preparedness measures put place. -Improved extension service & health of livestock
	Construction of Divisional offices housing for all government departments.	10million, County Government CDF Committee	Korr	2012-2014	GOK, DVO, CDF COMMITTEE	-The District Officer to be available at the convenience of the community. -Community development meetings arranged & held effectively. -One on one farmer & veteran consultant achieved -Faster response to disease outbreak realized
	Training & equipping of CBAHW (community based animals health workers).	2.4million, District Veterinary Officer(DVO), PISP, WV	Korr, Balaah & Halisirwa.	2012-2014	DVO, PISP, WV, FHI	-Livestock deaths reduced. -More livestock assets to be protected against shocks. -Immunization, information & treatment of livestock diseases enhanced.
	Initiate cross breeding activity in korr Create awareness of inbreeding problem & good animal's husbandry.	To be determine later; DLPO, NGOs like PISP, WV, FHI	Korr, Balaah & Halisirwa.	2012-2014	JICA, PISP, MOLD, NDMA	-Crossbreeding bull supplied -Drought resistant livestock created -Pastoral farmers embraced crossbreeding initiative
	Improved ways of fencing animal pens. Livestock shelter & settlement.	0.7million, PISP, FHI, WV, GA&MA ,community	Korr L/stock Market.	2012-2014	NDMA, PISP/JICA, individual community members	-Protects against hot & cold environment. -Convenience of management -Prevention of w&ering -Communicable animal diseases reduced. -Cases of animal raids & rustling reduced as the animal safety are enhanced.

Hazard Prevention (Human health) To access efficient , affordable health service delivery in korr which fosters minimized mortality of people from preventable diseases & attainment of good health for all	Construction & equipping of Korr Hospital.	30million Ministry of Health (MOH), CDF, NDMA	Korr Center	2012-2015	MOH, CDF COMMITTEE	-Hospital constructed -Human mortality rate reduced. -ICU, maternity, in-patient facilities, theatre & medicines available to the community.
	Providing systems & activities that uphold Basic health care system through trainings & awareness campaigns.	To be determine later; ministry of public health & Sanitation, UNICEF, AMPHIA Plus, Diocese of Marsabit, catholic	Korr, Balaah & Halisirwa	2012-2013	MOH, WV, catholic mission, AIC	-Community sensitized on the various preventive & curative healths care measures. -Traditional medical intervention methods strengthened. -Immunization campaign carried out.
	Establishment of Mobile clinic services	To be determine later; Catholic mission, MOH,	Korr, balaah & Halisirwa		MOH, catholic Mission	-Immunization of children carried out. -Malnourished & other disadvantaged persons accessed relevant support like supplementary food/supplies (PLWHA) for example multi-vitamin for the weak persons.
	Posting of medical personnel by the Government to provide medical services to the community.	To be determine later; Ministry of Health	Korr dispensary	2012-2013	MOH, Marsabit South	-More nurses & dOctors posted to Korr dispensary -Workload of catholic mission nurse reduced & efficiency realized
	Completion of health center & equipping it with both personnel & materials.	4million, CDF Committee Ministry of Health	Balaah	2012-2013	MOH, CDF COMMITTEE	-Balaah dispensary that has not been completed for 8 years finished built & equipped with medicine, personnel & equipment. -Distance to access health for the resident of Balah greatly reduced -Medical transportation cost to health services reduced

	Supply of hum&rugs & posting of qualified personnel to the health centers.		Korr	2012	MOH, NGOs	-Human mortality rate reduced.
Hazard Prevention (Natural Resource Management) To identify & exploit sustainably locally available natural resources to promote livelihood diversification & increase household income to reduce vulnerability among pastoralist of korr/Balah	Harvesting & Marketing guMarabica & Resins , packaging & storage(individual or group projects	To be determine later; Community, JICA/PISP	Korr, Balaah & Halisirwa	2012-2014	NEMA,	-Commercial activity of selling gums & resins initiated. -Registered groups that use the gum & resin selling for employment & income generating activity created. -Group training on harvesting methods conducted.
	Exploiting of precious stones for income(Rubi)	To be determine later; Community, Attorney General Office for licensing	Halisirwa	2012-2017	NEMA	-Gemstone groups formed & operational -License secured -Group linked Gemstone dealers
	Training of EMC for management of the environment	0.5millions, PISP/JICA, NEMA, Ministry of Environment & natural resources	Korr, Balaah & Halisirwa	2012-2013	PISP/JICA, NEM&MA COUNTY COUNCIL, CCS	-EMC re-active & trained -EMC registration with Registrar of society facilitated -EMC enforces environmental protection & conservation -Establishment of foundations & initiatives that encourage peaceful co-existence between Korr community & its environs
	Harvesting & storage of fodder for commercial use.	To be determine later; Community, Ministry of livestock Development, NGOs	Korr, Balaah & Halisirwa	2012-2014	DLPO, NEMA, JICA, PISP Community	-Hay storage stores built -Groups that sell & manage the fodder to be established

	Establishment of tree nurseries e.g. custard(Khulum) Start of custard plant nursery	To be determine later; KARI, NEMA, WV, KFS(Kenya forest services)	Balaah Halisirwa	2012-2017	KFS, KWS, KARI, NEMA	-Groups trained for custard planting & maintenance skills -Market for custard created in Korr. -Custard plant nurseries established
	Establishment of cultural centers & promotion of eco-tourism e.g. camel derby.	To be determine later; Kenya National Museum, Kivulini Trust International	KORR	2012-2014	MOT, CDF, NDMA. KIVULINI TRUST, PISP, JICA, PISP, COMMUNITY	-Traditional systems enhanced -Regalias & other traditional memoirs recollected -Intra & Inter communal peace initiatives strengthened. -Mini- Rendille Museum built -Periodic Camel Derby race initiated
	Strengthening traditional water storage facilities (Haan). Pilot production & Marketing.	To be determine later; Community	Korr, Balaah & Halisirwa	2012-2014	COMMUNITY, WOMEN GROUP, PISP, JICA	-In Groups to indulge in the Haan selling business established. -Market committee establishd within & outside Korr. -Self-employment guaranteed for the community. -Traditional systems strengthened
	Frequent meeting with moans & elders on attitude change raids & incitement & join peace initiatives.	2m: PISP, FHI, Office of the president (provincial administration & police	Korr, Balaah & Halisirwa	2012-2014	COMMUNITY. PROVINCIAL ASMINISRATION, POLICE. PISP, JICA	-Community peace meetings held. -Moran's to involve themselves with other constructive activities of the community -Reduced incidences of raids & cattle rustling.
	Enforcement of Peace Agreement Declaration through public barazas & meetings(6forums)	2.5million, Peace Committee, GoK, Moran's	KORR, BALAAH & HALISIRWA	2012-2014	COMMUNITY. PROVINCIAL ASMINISRATION, POLICE. PISP, JICA	-Recovery of the livestock stolen during the various raids through negotiations. -Compensations for the loss of lives & livestock in the past years. -Community strengthen surveillance initiative & policing & bringing forth persons amongst them who contravenes the peace declaration guidelines

						-Peaceful coexistence & reduced incidence raids or revenge prevailed
Communication To lobby & advocate for development telecommunication infrastructure as stimulant to socio economic development & connectivity to the rest of country	Setting up Network system, internet , road, library, resource center	To be determine later; CCK Mobile Companies Orange company	Korr, Balaah & Halisirwa	2012-20 14	Provincial Administration, MOW, CCK Safaricom, Airtel, Telkom, Community, Elected leaders.	-Korr community become connected with rest of the country -E-commerce in korr enhanced(monitored of livestock prices in secondary Market) -Income generating activities sprang up through start of M-Pesa, Cybercafé initiative -Provide a deterrent to imminent attacks or raids through prompt reporting/information sharing -Policies that encourage effective planning & implementation of communication programmes created in Korr
Security To establish both hardware & software facilities for provincial administrators & security institution to promote effective service delivery & stability in Korr to enhance good governance systems	Building & equipping of police quarters, chiefs office & providing means of transport	To be determine later; Office the president (Ministry of Internal Security, Ministry of Housing CDF Committee	Korr, Balaah & Halisirwa	2012-20 14	Provincial administration, Police, CDF, committee	-District officer office & residence built -Modern Administration police/regular police station/ houses built -Motor vehicle provided -Modern communication infrastructure installed -Reduced incidence of thug gery in korr

Attachment B3-1

Community Action Plans (CAPs) of Turkana

Attachment B3-1 COMMUNITY ACTION PLANS of Turkana

TURKANA NORTH REGION

(1) MLIMATATU

1(a) ACTION PLAN WITH EXTERNAL SUPPORT

	DRR Objectives	Target/Where	When	Resource provider	Responsible person	Expected change
Hazard Mitigation Objective	Rehabilitation non -functional water facilities;4 water pans at Kabilikeret, Lopokolem, Iche and kangkalo.	Milimatatu	2013-2014	Community leaders and the Organizations' officials	community, CM-DRR committee	Easy access and availability of water for livestock.
	Establishment of Livestock market in the area	Milimatatu	2013-2014	LMA, Ministry of Livestock	CM-DRR committee	Easy access to livestock market and controlled livestock prices in the area
	Aloe Vera harvesting	Milimatatu	Continuous	Community groups	CM-DRR committee	Diversification of livelihoods through income generating activity.
	Formation of micro finance group(VICOBA)	Milimatatu	Continuous	Relevant groups	community, CM-DRR committee	stimulate local market and enhance saving culture
Community Organization strengthening measures	Formation of community organization under CMDCs umbrella	Milimatatu	2013-2014	Community leaders	Community CM-DRR committee	To enhance development in the community
	Development of Community Action Plan through participatory approach	Milimatatu	2013-2014	Community	Community, CM-DRR committee	Community development and preparedness
	Strengthening of already existing group	Milimatatu	Continuous	Community	Community leaders, CM-DRR committee	for mobilization and proper utilization of available resources
	establishment of local early warning system	Milimatatu	2013-2014	community,CMDCs	CM-DRR committee	For community preparedness during drought
	Establishment of drug store in mlima tatu	Milimatatu	Urgent	Community Leaders	Ministry of Livestock,CMDCs	Easy accessibility of veterinary services

1(b) Action plan without external support

	DRR Objectives	Target/Where	When	Resource provider	Responsible person	Expected change
Hazard Mitigation Objective	Rehabilitation non -functional water facilities;4 water pans at Kabilikeret, Lopokolem, Iche and kangkalo.	Milimatatu	2013-2014	Community leaders and the Organizations' officials	community,CM-DRR committee	Easy access and availability of water for livestock.
	Establishment of Livestock market in the area	Milimatatu	2013-2014	LMA,Ministry of Livestock	CM-DRR committee	Easy access to livestock market and controlled livestock prices in the area
	Aloe Vera harvesting	Milimatatu	Continuous	Community groups	CM-DRR committee	Diversification of livelihoods through income generating activity.
	Formation of micro finance group(VICOBA)	Milimatatu	Continuous	Relevant groups	community, CM-DRR committee	stimulate local market and enhance saving culture
Community Organization strengthening measures	Formation of community organization under CMDCs umbrella	Milimatatu	2013-2014	Community leaders	Community CM-DRR committee	To enhance development in the community
	Development of Community Action Plan through participatory approach	Milimatatu	2013-2014	Community	Community, CM-DRR committee	Community development and preparedness
	Strengthening of already existing group	Milimatatu	Continuous	Community	Community leaders, CM-DRR committee	for mobiization and proper utilization of available resources
	establishment of local early warning system	Milimatatu	2013-2014	Community, CMDCs	CM-DRR committee	For community preparedness during drought
	Establishment of drug store in mlima tatu	Milimatatu	Urgent	Community Leaders	Ministry of Livestock,CMDCs	Easy accessibility of veterinary services

2.KANGAKIPUR ACTION PLANS

2.(a)Community action plan with External support

Hazard/Objective	Activity and targets	When	Resource and providers	Responsible person	Expected change /Results
Drought : To increase water resources	Excavation of water pans at Nakipi,Lomil and Nakweei	Oct -2013	Kshs.1.5 Million JICA & LOKADO	CDMC	To Improve access to water for livestock
To promote food production To increase livestock off take To increase access to working capital	<u>Drilling of boreholes at Akalaloit, Ngaukon, Kangakipur Town, Ikingol and Loukomor</u>		Kshs.15 Million JICA & LOKADO	CDMC	Improve access to potable water for human consumption
	Piping water to households	Nov-2013	Kshs.2 Million JICA & LOKADO	CDMC	Provide and ensure clean water for the people
	<u>Construction of water reservoir (Raised aluminium tank)</u>	Nov-2013	Kshs.3Million JICA, LOKADO & county government	CDMC	Enhance water harvesting and storage for livestock & human consumption
	Drip irrigation farming (green house-Amiran kit)	Oct.2013	Kshs.2 Million JICA & LOKADO	CDMC	Improved food production
	Establish Livestock market structure (sales yard)	Nov.2013	Kshs.1 Million JICA & LOKADO	CDMC	Reduced distance to markets
	Micro-credit support for livestock marketing traders	Nov.2013	Kshs.500,000 JICA & LOKADO	CDMC	Improved access to business working capital
	To increase availability of grazing resources	Reseeding of dry season grazing areas	Dec.2013	Kshs.300,000 JICA & LOKADO	CDMC
To construct a health facility	Construction of a health facility	Jan.2014	Kshs.2,500,000 CDF,County Government	CDMC	Improved health services
To construct education infrastructure	Construction of Primary school	Jan.2014	Kshs.2 Million CDF & County Government	CDMC	Improved access to education
To establish veterinary drug store	Livestock Veterinary drug store	Jan.2014	Kshs.500,000 Catholic church, CDF	CDMC	Improved veterinary services
To provide emergency services	Acquire ambulance services	Feb.2014	Kshs.4 Million CDF, County government	CDMC	Reduced cases of avoidable deaths
To access communication services	Acquire radio communication for the health centre	Feb.2014	Kshs.500,000 CDF, County Government	CDMC	Improved early warning and response
Community Organization : To establish community organizations to manage the projects	strengthen water Users association	Oct.2013	Kshs.150,000 JICA	LOKADO & CDMC	Improved water management and access by community members
	capacity build the Community Disaster management committee	Sept-Oct.2013	Kshs.200,000 JICA	LOKADO	Improved community resource management

2(b)Action plan without external support

Hazard/Objective	Activity and targets	When	Resource and providers	Responsible person	Expected change /Results
Drought: To exploit the available mineral resources	Collection of green garnets	Any time	Mining tools community	CDMC	Improved standards of living
To harness available natural resource potential	Exploration of the quarry stones	On-going	Cutting tools i.e. chisels, Harmers	CDMC	Improved living standards
	Collect and distill Aloe Vera	On-going	Harvesting tools	Community	
	Charcoal burning	On-going	Community	Community	Increased cash availability at Households
	Fetching of firewood	On-going	Community	Community	Increased income sources
	Collection of local sisal products	On-going	Cutting materials, Community	Community	Increased income and reduced dependency on food aid
To increase ground cover and animal feeds	Planting trees and fodder crops	Oct.2013	Seeds and propagation materials	CDMC & community	Improved livestock feeds availability
To develop savings culture among communities	Formation of Merry go round/VICOBA groups	Anytime	Organize consultative meetings	CDMC	Improved access to business working capital
Livestock Diseases: To ensure animals are protected from diseases	Request for Vaccination and treatment of animals	Once every year	Other partners and government	CDMC	Improved animal health
	Reporting disease cases to Veterinary department	Once diseases are noticed	Community	CAHWs, Chiefs	Improved disease surveillance
	Impose quarantine when notifiable disease is noticed	Once disease cases are noticed	Community & Government	CAHWs, Chiefs, CDMC	Improved disease control mechanisms
To increase livestock off take	Commercial off take of strong animals	September every year	Community	Community	Reduced livestock losses during hazard event
To enhance survivability	Herd splitting	Any time	Community	Community	Improve survivability of livestock

Human diseases: To enhance preparedness for diseases	Acquire health first Aid kit	Quarterly	District Hospital	Community,CH Ws	Reduce minor cases of ailments
To enhance diseases control	Sensitize communities for immunization of <5years children	Every public meeting	CDMC	CHWs	Improved immunity
To ensure availability of potable water at household level	Repair and maintenance of pipes and bore holes	Oct.2013	Kshs.5,000 Community	CDMC	Improved water access and availability
To ensure availability of clean water	Undertake water treatment(use aqua tabs & boiling)	Oct.2013	Community	CDMC & CHWs	Reduced water borne diseases
To enhance improved hygiene and sanitation	Sensitize communities to construct more latrines	Nov.2013	Community	CDMC & CHWs	Reduced cases of diarrhea diseases
Community Organization: To establish resource management institution	Form the Community Disaster management committee	Sept.2013	Community	Community	Enhanced resource identification & management
PMEL: To ensure the community participate in PMEL	Formulate performance indicators for CAPs implementation	Jan.2014	CDMC	CDMC & LOKADO	Successful attainment of desired results
	Organize bi-annual reviews	Feb.2014	CDMC	CDMC & LOKADO	

TURKANA WEST

3.LOKICHOGIO

3(a)with external support

Hazard/Objective	Activity and targets	When	Resource provider	Responsible person	Expected change /Results
Drought: To increase water access for 10,000 people and 30,000 livestock	Excavation of water harvesting structures(water pans) at Korega and Natuol	Oct.2013	Kshs.2.1 Million JICA	LOKADO and CDMC	Reduced distances to water sources
	Carry out Geological survey to develop bore holes & installation of wind mill pumps/solar panels /steel tanks at Natuol, Lochorangamor, Korega, Ataekale, Narot, Kaludokunyuk, Karioki and Kongomo areas	Nov.2013	Kshs.15 Million JICA	LOKADO and CDMC	Improved water access to the community
	Construct rock catchment dam at Narionokipi	Dec.2013	Kshs.1,300,000 JICA	LOKADO and CDMC	Reduced human and animal mobility
To increase food production	Procurement of Drip irrigation kits (Amiran kit), farm seeds, tools & equipments	Nov.2013	Kshs.2Million JICA	LOKADO and CDMC	Reduced food related deficiencies
	Fencing of farming plots for security purposes	Nov.2013	Kshs.3Million JICA	LOKADO & CDMC	Improved livelihood sources
	Construction of a cereal store		Kshs,2 Million JICA	LOKADO & CDMC	Improved food security
	Hire tractor services for a month	Nov.2013	Kshs,3,5 Million JICA	LOKADO & CDMC	Increased land under crop production
To increase availability of pasture resources in the area	Purchase of power saws for cutting <i>Prosopis juliflora</i> trees	Dec.2013	Kshs,22,500 JICA	LOKADO and CDMC	Increased pasture resources for livestock rearing
To increase working capital access	Micro credit scheme	Dec.2013	Kshs.500,000 JICA	LOKADO & CDMC	Improved standard of living
Insecurity: To enhance free utilization of available natural resources	Construction of KPR houses at Natumamong,Kachodotuko and Iria	Dec.2013	Kshs.2Million JICA,DCA	LOKADO and CDMC	Reduced cases of insecurity
	Repair and construction of security access routes to facilitate patrols and surveillance	Dec.2013	Kshs.4 million County Government	LOKADO and CDMC	Early warning information & response
	Identify & train reformed warriors on alternative livelihoods	Dec.2013	Kshs.500,000 JICA,DCA	LOKADO & CDMC	Reduced loss of property and lives
Livestock Diseases: To promote animal	Establishment of animal drug store	Nov.2013	Kshs.800,000 JICA,DCA	LOKADO & CDMC	Improved livestock health

health services	Purchase cattle crush	Nov.2013	Kshs.350,000 JICA	LOKADO & CDMC	Improved disease control
Human diseases: To promote curative & preventive health	Construct a public health facility	Jan.2014	Kshs.5Million CDF,County Government	LOKADO & CDMC	Improved access to health services
To improve emergency response	Acquire ambulance services	Feb.2014	Kshs.4Million CDF,County government	LOKADO & CDMC	Reduced cases of avoidable human deaths
Illiteracy: To promote education for all	Establish a learning resource centre	Dec.2013	Kshs.2Million CDF & County Government	LOKADO & CDMC	Enhance education standards
	Establish learning facilities for adults at Ngagirakais, Town,Locheerekaal,Nachuchukait,Jerusalem and Nakwamor	Dec.2013	Kshs.5,800,000 CDF,County government	LOKADO & CDMC	Adult education standards enhanced
To promote learning for the disabled groups	Establish special school for the disabled	Nov.2013	Kshs.3 Million CDF & county Government	LOKADO & CDMC	Pupils with special needs catered for
To ensure all schools meet the required educational standards	Support needy schools with infrastructure and learning equipments	Dec.2013	Kshs.6Million CDF, County Government	LOKADO & CDMC	Adequate learning facilities
Community Organization : To establish community organizations to manage the projects	strengthen water Users association; training and spare parts kit provision	Oct.2013	Kshs.450,000 JICA	LOKADO & CDMC	Improved water management and access by community members
	capacity build the Community Disaster management committee; training and stationery	Sept- Oct.2013	Kshs.250,000 JICA	LOKADO	Improved community resource management

3(B)without external support

Hazard/Objective	Activity and targets	When	Resource providers	Responsible person	Expected change /Results
Drought : To increase food production and fodder for livestock feeding	Planting and harvesting of fodder crops (Lucerne,etc)	Oct.2013	Community	CDMC Chairperson- Danson Ekai)	Assets and livelihoods salvaged
	Planting of trees	Oct.2013	Community	CDMC-Chairperson	Improved rainy pattern
	Pasture harvesting & seed stocking	Oct.2013	Community	CDMC	Increased feed resources
	Planting of sorghum , maize & vegetables	On-going	Community	CDMC	Increased food security at H/Holds
	Harvest & process Aloe vera	Nov.2013	Community	CDMC	Improved income sources
	Commercial off take of livestock	On-going	Community		Reduced losses during hazard event
To reduce the expansion of <i>Prosopis juliflora</i> in the range lands (management practices)	Burning and planting acacia spp (Ngapeto) as a biological control of <i>Prosopis juliflora</i>	Nov.2013	Community	CDMC	Increased pasture availability
	Charcoal burning	Nov.013	Community	CDMC	Increased income sources
Insecurity: To increase assist clear feeder roads for security patrols	Bush clearing of feeder roads for security	Oct.2013	Community	CDMC	Improved security surveillance
To promote co-existence with warring neighbors'	Organize dialogue meetings with Dodoth, Toposa and Dongiro	Jan.2014	Community	CDMC,L:OKADO	Improved utilization of available natural resources
Diseases(Livestock & human): To improve hygiene and sanitation for 10,000 people	Sensitize communities to establish dish racks in the villages	Nov.2013	Community	CDMC	Improved hygiene at the household level
	Promote hygiene practices in the village(hand washing, nails cutting & latrine construction)	Nov.2013	Community	CDMC	Reduced water borne disease incidences
	Sensitize pastoralists to avail children <5 years for immunizations	Oct.2013	Community	CDMC	Improved immunity against diseases
	Identify committed Community health worker workers(CHWs) to be trained by partners	Nov.2013	Community	CDMC	Improve health care services at the community
Organization: To establish community disaster management organization	Establish Lokichoggio Disaster management group	Septembe r 2013	Community	CDMC	Improved community resource management
	Develop social audit performance indicators	Nov.2013	Community	CDMC	Improved service delivery to the community

To initiate micro finance institutions	Formation of Merry go round /VICOPA groups	Oct.2013	Community	CDMC	Increased access to business working capital
PMEL: To ensure the community participate in PMEL	Formulate performance indicators for CAPs implementation	Jan.2014	CDMC	CDMC & LOKADO	Successful attainment of desired results
	Organize bi-annual reviews	Feb.2014	CDMC	CDMC & LOKADO	

4.LORITIT

4(a)with external support

Hazard/Objective	Activity and targets	When	Resource providers	Costing	Responsible Person	Expected change /Results
	<ul style="list-style-type: none"> Construction of sub-surface dam in Itoito 2 		JICA	KSHS 2M	• CMDCs, local <i>leaders</i>	• Water availability for livestock
Drought/Water	<ul style="list-style-type: none"> Drill five more boreholes in Lotaka, Lodukot, Kokorio, Moruan ayeche and Akoros village 	2013-2014	CDF, County Government, JICA	KSH 10 M	• CDMC, water users organizations	• Water access and availability for both human and livestock consumption
	<ul style="list-style-type: none"> Construction of water troughs for livestock in five areas where five boreholes will be drilled 	2013-2014	JICA, County government under line ministry, CDF	KSH 300,000	• CDMC, water users organizations, contractor, geologist,	<ul style="list-style-type: none"> Water access and availability for both human and livestock consumption Reduced health problems related to water borne diseases
	<ul style="list-style-type: none"> 3 Water pans in Lotaka, <i>kokorio</i> and <i>Lodukot</i> 		CDF, County Government, JICA	KSH. 1.5	• CDMC, Contractor, local leaders	• Water access and availability for both human and livestock consumption
Natural resource management	Financial support of already existing Aloe Vera project and construction of Aloe Vera products unit.	2013-2014	JICA, County government through line ministry, CDF	KSHS 2 M	• CDMC, Aloe Vera group	<ul style="list-style-type: none"> Improve living standard of the community members Diversification of livelihoods
	<ul style="list-style-type: none"> Capacity building and training of CMDCs 	2013-2014	JICA, LOKADO	KSHS 500,000	• JICA, LOKADO	• Realization of roles and responsibility of formed community groups and

						sustainable development in the community
	<ul style="list-style-type: none"> Build two health facilities – dispensaries in Kaameyan (1) and Nakoros (1) village in Loritit sub location 	2013-2014	County government through line ministry, CDF	KSHS 2.4 M	• CDMC, Contractor, LOKADO ministry of health for quality assurance and adherence to standards	<ul style="list-style-type: none"> To reduce mortality and morbidity rate Availability of drugs in the area Employment
	<ul style="list-style-type: none"> Build four classrooms for Kaameyan primary school 	2013-2014	County government through line ministry, CDF	KSH 3M	• CDMC, Contractor, LOKADO ministry of education for quality assurance and adherence to standards	• Reduced illiteracy rate and increased access to free primary education by all
	<ul style="list-style-type: none"> Buying of drought adaptive livestock 	2014-2015	County government through livestock ministry, NGOs,	KSH 2 M	• Ministry of livestock, CDMC, local leaders	<ul style="list-style-type: none"> Improved livestock productivity Improved livestock breeds for increased income

4(b) without external support

DRR Objective	Activities/Strategies	Target/Where	When	Resource and provider	Responsible person	Expected change
Community readiness	Rehabilitation of 1 shallow well in Akoros village and 1 borehole in Kaameyan and other water facilities that are not functional within the area	Loritit	urgent	Community man power	community	Water availability and accessibility
	Monthly contribution to help in rehabilitation of water facilities	Loritit	continuous	CDMCs	Water users association and community leaders.	Sustainability of water facilities.

<i>Formation and strengthening of already existing organizations.</i>	Formation of Community based development organizations and strengthening of already existing.(water users associations,livestock marketing association	Loritit	2013-2014	Community	Community	Operational and effective community development committee;
	Participatory monitoring and evaluation and social audit of community assets.	Loritit	2013-2014	Community,GOK	community GOK	Strengthened linkages and liaison between the CDCs and government line ministries.
	Community mobilization and sensitization on key important issues on CM-DRR	Loritit	continuous	CMDCs	NDMA,CMDCs	Community preparedness
<i>To come up with diversified/sustainable livelihoods to build resilience in the community.</i>	Explore alternative livelihood options e.g. harvesting of aloe vera, dry <u>land farming(kitchen gardening)</u> ,village community banking and other business ventures/drought preparedness	Loritit	continuous	community	community	Build resilience in the community
Hazard Mitigation Objective		Loritit				
	Use alternative Fodder, preserved supplements,mollases(planting of lucern and cycruse ciliaries.	Loritit	continuous	community	Individual household, community groups, duty bearers, area leaders,	Increased survivability of shoats during drought when outbreaks are prevalent.
	Documentation of lessons learnt					

LOIMA

5.LOKIRIAMA

5(a)with external support

Activities	Objectives	Resources needed (KES)	Provider/responsible	when	Expected changes/outputs
1.Rehabilitation of borehole and construction of piping system at LOKIRIAMA	To provide clean water to the community and reduce the risk of insecurity by making the water available within the village.	-1.5millions	JICA	To be defined by the donor	-Sufficient and clean water supplied to the community. -Mortality rate due to insecurity and water borne diseases reduced. -This will be an IGA for water user association for sustainability and will strengthen the committee. -More trees planted in homesteads.
2. Construction of new water pans at NAKALUWAT, NASOGOLO, KOPOTAKINE and MORUITA.	The pans will provide water for human and animal uses in dry season grazing areas. It will also support vegetable farming and mining activities within the area.	-8millions	JICA		-Dry season grazing area utilized because water will be available. -Establishment of permanent settlement and crops farming encouraged in the area. -Livelihood improved -Wildlife will also benefit
3. Business start up (eg: buying and selling livestock, goods, small shops...)	To increase household income, support payment of school fees and medical bills,	-2millions	JICA		-Business operators/facilities increased -Poverty reduced, more children taken to school. - Warriors reformed
4. Organizing cross border peace events or meetings (3 times/ year; 1 with each of the neighboring community: Karamajon, Tepeth, Pokot).	To promote and maintain peace with the neighboring community and ensure sustainable communication between the neighboring communities through peace committees.	-3millions	JICA		-Insecurity reduced and sustainable peace achieved. -Communities living in harmony, free movement of humans, goods and services. -Creation of job opportunities for youth, women and community as a whole. -Poverty level reduced. -Livestock diseases reduced
5. Construction of facilities for a primary school in Urum	To provide access to primary education to over 2000 children in the area by reducing the distance between the kraals and the school, hence increasing literacy level in the community. This will also reduce the number of potential warriors.	-500,000	JICA		-Literacy level increase due to high enrolment of children in school. -Number of potential warriors decreased. -Permanent settlement encouraged -Business opportunity created for community.

6. Development of a small scale irrigation scheme for crops farming.	To improve farming practices so that the community can achieve food and nutritional security. Provide alternative livelihoods strategy, to reduce hunger and promote self employment.	-10millions	JICA	To be defined by the donor	-Food availability, household income and self reliance increased. -Probability of raids and conflict reduced because the community members will be busy. -Community will be able to pay school fees, hospital bills and livelihood improved
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5(b) without external support

COMMUNITY ACTION PLAN FOR LOKIRIAMA (Community funded)

Activities	Objectives	Resources needed	Provider/responsible	Time frame (by when)	Expected changes/outputs
1.Afforestation	To increase vegetation cover and environmental services.	-Seedlings -watering cans (100,000 KES)	Community	March 2014	-Vegetation cover increased -Erosion reduced -Fodder available -Construction material available
2. Stacking of hardcore and ballast	To improve efficiency of the IGAs by reorganizing it.	Man power (20,000KES)	Group members	October 2013	-More resources accruing from the activity. -Self employment
3. Establishment of Aloe vera farm	To provide raw material for detergent processing	Land Man power Seedlings (50,000KES)	Group members	November 2013	-Improve household income -Improve health
4. Initiating mobile schools at Lochoralomala and Atalokamusio	To provide basic education for children of pastoralists	Local building materials (40, 000KES)	Community	January 2014	-Literacy level improved in pastoral communities

6.LORENGKIPI

(A)with external support

Activities	Objectives	Resources needed (KES)	Provider/Responsible	Time frame (by when)	Expected changes/outputs
1. Provision of water supply (Sand dam and water pan...)	The water provided will mainly be to support small irrigation scheme. Will also help for house uses and livestock watering.	-5millions	JICA	To be defined by the donor	-Walking distance for human and livestock reduced -Overcrowding of existing water points lowered -Crop production system improved -Hygiene improved and diseases reduced -Better life for the community.
2. Development of small businesses /IGAs (Livestock drugstore, small retail shops, buying and selling of livestock).	To reduce poverty, increase household income and self reliance, thus reducing livestock thefts/raids.	-2millions	JICA	To be defined by the donor	-Poverty level and dependency reduced -Livestock diseases reduced -Basic commodity made available to the community
3. Crops farming/ small scale irrigation scheme	Achieve food security for the community	-10millions	JICA	To be defined by the donor	-Enough food for community -Human and animal health improved -Household income increased -Busy community reducing likeness of livestock raids
5. Functional market in LOYA	To reduce distance to the market, improve trade and achieve peaceful coexistence between the neighboring communities (Tepes, Pokot, and Turkana).	-1million	JICA	To be defined by the donor	-Peace is achieved between the neighboring communities. -Poverty level reduced -Outside traders encouraged -Market fully functional
6. Construction of a secondary school in LOYA	To promote peace and enhance peaceful interaction between the three neighboring communities. Bring education close to conflicting groups.	-10millions	JICA	To be defined by the donor	-Peace achieved between the 3 neighboring communities -Distance to get to high school reduced -Literacy level become high -Lifestyle changed

TURKANA CENTRAL
7.ELIYE SPRINGS
7(A)with external support

Hazard/ Objective	Activity and targets	When	costing	Resource providers	Responsible person	Expected change /Results
	Donation of 9 speed boats, 200 fishing nets, 180 life saving jackets and 12,600 fishing hooks to fishermen organized groups and provision of technical support.	2013-2014	KSH 8 M	JICA, NGOs, GOK.	Community leaders, BMUs, fishing association	<ul style="list-style-type: none"> Sustainable utilization of natural resources increased Investors attraction Improved infrastructure Improved living standard Development of fishing Deep water fishing/improved fishing activity
	Drilling of 5 boreholes at (Natumkomwa, nakibuse, Nakatapan, Emunyen, Atapar, Nakode and kakiyapus) rehabilitation of 3 hand pumps at Kakiyapus, Natiir, (Kenya oil) and Nakatapan and establishing of 3 water pans at Korich, Natiir and Katapangidomou.	2013-2014	KSH 16 M	JICA, other NGOs and county government.	Community, NGOs, Ministry of water and irrigation.	<ul style="list-style-type: none"> Clean water available for the community Accessible water used to improve kitchen gardening activities Functionality of water facilities
	Training and capacity building of CMDCs	2013-2014	KSHS 1M	JICA, other NGOs and county government.	Community organizations,NDMA	<ul style="list-style-type: none"> Community preparedness Realization of CMDRR concept
	Develop viable irrigation scheme and provision of technical support	2013-2014	KSHS 3M	County government, NDMA,	Ministry of irrigation,NDMA, CMDCs	<ul style="list-style-type: none"> To build resilience in the community Livelihood diversification
	Establishment of fish unit/processor for processing fish, storage, handling and transportation	2013-2014	KSH 12 M	JICA other NGOs, GOK.	NGOs, ministry of fisheries	<ul style="list-style-type: none"> Employment opportunities Improved infrastructure Boost to county economy Improved living standard Increased fishing activity

	Establish basketry market, purchase 1 lorry for transportation of baskets and other hand craft	2013-2014	KSHS 8 M	JICA, NGOs, GOK	Organized groups and individuals	<ul style="list-style-type: none"> Easy access to basket market for high income levels Utilisation of doum palm Improved service delivery Employment opportunities Improved living standard
	Formation of livestock market and construction of 1 sale yard and 1 crusher in Eliye springs	2013-2014	KSHS 2 M	JICA, other NGOs, GOK	Livestock marketing association and ministry of livestock	<ul style="list-style-type: none"> Easy market access Availability of livestock sales facilities Strong livestock association manage livestock sector for improved economy Market regulations reduce livestock theft for sale
	Construction of a drug store and stocking it with veterinary drugs	2013-2014	KSHS 1.8 M	JICA, other NGOs, county government	Community, Ministry of livestock	<ul style="list-style-type: none"> Improved livestock health Availability of livestock drugs reduces morbidity Increased livestock production High quality livestock products
	Expansion of already existing public health facility and building of 2 others at Wadach and Nasekon village.	2013-2014	KSHS 7 M	NGOs and county government	Community, ministry of health and community leaders	<ul style="list-style-type: none"> Reduced morbidity rate Availability of drugs for the community Accessible health services Employment opportunities available for the locals
	Construction of 3 primary school at Kenya oil, Natumkomwa, Lomunyen and 2 secondary schools for girls and boys	2014-2013	KSHS 25 M	County government, CDF, JICA, NGOs, national government	CM-DRR committee, SMC, local leaders, head teachers, Education officer.	<ul style="list-style-type: none"> Access to education Reduced illiteracy level Increased self-employment opportunities
	Establishment of water bottling factory at Eliye	2013-2014	KSH 12 M	County government, NGOs	CMDRR committee, Development committee	<ul style="list-style-type: none"> Employment opportunities Improved infrastructure Investors attraction Contribute to county economy

7(b)without external support

DRR Objectives	Target/Where	When	Resource provider	Responsible person	Expected change
Institute strong leadership structures to spearhead development policies in the community towards resilience	Eliye spring	2013-2014	Community	CM-DRR committee, community leaders	Strong community organizations readily handle drought mitigation challenges,high bargaining power
Advocating for increased critical facilities in the community and social auditing of all facilities in the community	Eliye springs	Continuous	Community	CM-DRR committee,community leaders	increased productive facilities
Rehabilitation of non-functional water facilities in eliyesub-location	Eliye	2013-2014	Community	CM-DRR committee, community leaders	For easy access of water
Formation of livestock marketing association, rangeland committee and fisheries and eco-tourism management group	Eliye spring	2013-2014	Community leaders and the Organizations' officials	community,CM-DRR committee	Strong community organizations to handle natural resource management and strong bargaining power.
Strengthening and capacity building of already existing organization/groups e.g youth groups,Women groups and Beach Management Union (BMUs)	Eliye springs	2013-2014	Community leaders and the organizations' officials	CM-DRR committee	Strong community organizations readily handle drought mitigation challenges
Diversification of livelihoods through practice of dry land farming in various productive areas of Nakibuse, nakatapan, etiriwae, natumkomwa, naroebu and kalemapura by utilization of water from the three springs	Eliye springs	2013-2014	Community	Community leaders, ministry of water and irrigation, CM-DRR committee	Available diversified livelihood options for improved living standards
Establishment of community Early Warning System and timely response mechanism	Eliye spring	Continuous	Community	CM-DRR committee and weather and forecasting stations	community preparedness

Provision of trainings to the community on CMDRR in order to build resilience in the community	Eliye springs	Continuous	National drought management authority.	NDMA (national drought management authority)	Community's resilience to drought is adequate
To mobilize the community and relevant actors to support and implement community action plan.	Eliye spring	Continuous	CM-DRR committee, Local community leaders,	community leaders, CM-DRR committee	Community readiness to respond positively to drought/famine and community development initiative
Establishment of livestock sales yard for ready livestock market in the area	Eliye spring	2013-2014	Community, CM-DRR committee, Livestock Marketing Associations	Community leaders, Ministry of livestock, CM-DRR committee, Livestock marketing associations	Easy and ready market accessible by all pastoralist within and neighbouring Eliye
Improved fishing culture a long eliye springs through campaigns ,mobilization and sensitization of community,	Eliye springs	2013-2014	Community, CM-DRR committee	Community leaders, CM-DRR committee	improved fishing activity along eliye and diversified livelihoods
Linking of formed organization to relevant ministries in the government e.g BMUs to ministry of fisheries,selling of culture to ministry of tourism	Eliye springs	2013-2014	GOK,Community	community, GOK, CM-DRR committee	Good working relationship between government and implementing partners
Establishment of Veterinary Drug Store	Eliye	2013-2014	Community leaders and the GOK	Community CM-DRR committee	Easy access and availability of veterinary services and improved livestock health
Establishment of a curio shop in Eliye springs for tourist .	Eliye spring	2013-2014	Registered groups, individuals	CM-DRR committee, Ministry of tourism	Tourists attraction and income generating activity

Lobby and campaign for increased water sources and livestock health facilities	Eliye springs	Continuous	Community leaders	Community leaders, CM-DRR committee, Water users Association officials	All inclusive action plan developed by stakeholders
Provision of natural spring for water bottling factory in eliye springs.	Eliye springs	2013-2014	Community	CM-DRR,Ministry of natural resource natural	investors attraction,employment opportunities for locals and utilization of natural resource
offering security to natural resources and productive facilities in the community	Eliye springs	2013-2014	community	CM-DRR committee,community leaders	ownership of projects implemented in the community
Establishment of market for available resources.establishment of fish market,weaving and basketry.	Eliye springs	2013-2014	community	CM-DRR committee,community leaders,fisheries.	easy access to fish and basketry market/diversified livelihoods

8.KERIO

8(a)with external support

Hazard/Objective	Activity and targets	When	Resource and providers	Responsible person	Expected change /Results
Drought: To increase water access for 4,000 people and about 50,000 livestock	Dig bore holes at Turkwell(Nangolekuruk) and kerio River for human consumption	Nov.2013	Kshs38 Million JICA	LOKADO and CDMC	Reduced distances to water sources
	Dig bore hole at Lothagam hill for livestock watering	Dec.2013	same JICA & GoK		Improved water access to the community
	Construct rock catchment dam at Lothagam	Jan.2014	Kshs.5 million JICA & Gok		Reduced trekking distances by livestock
	Excavate water pans at dry season grazing areas of Lothagam, Nangololakwaan, Lomunio and Nakiyo	Dec.2013	Kshs.800,000 JICA		Increased water availability for livestock
To increase food production	Irrigation farming and Prosopis juliflora bush clearing at Ngimuria(Angololakwaan, Lotaparmoe and Lomunio	Nov.2013	Kshs.80 Million JICA & Gok		Increased food security

	Construct Market stalls for women merchants	Nov.2013	Kshs.20 Million JICA		Increased wealth especially for women
	Livestock sale yard expansion(construction of loading ram and holding yards)	Dec.2013	Kshs.25 Million JICA		Increased livestock sales and reduced dependency
To increase availability of pasture and food in the area	Purchase tools & equipment for clearing <i>Prosopis juliflora</i> trees at farm land(power saws, wheelbarrows, pangas, rakes, pick axes, files, jembes & shovels)	Dec.2013	Kshs.15 Million JICA, GoK and community		Increased availability of and arable farm land
To increase working capital access	Boost community initiated Micro credit finance service	Dec.2013	Kshs.500,000 JICA		Improved access to business working capital
	Avail fishing gear(nets,boats,fishing hooks,life jackets, Ring manillas etc)	Feb.2014	Kshs.12 Million JICA		Improved lifestyle and income generation
Livestock Diseases:	Vaccination and treatment of livestock	Nov.2013	Kshs.2 Million GoK Community		Improved livestock health
To promote animal health services	Purchase cattle crush	Nov.2013	Kshs.350,000 JICA		Improved disease control
Illiteracy: To promote formal education for all	Establish a learning resource centre	Dec.2013	Kshs.2Million CDF & County Government	LOKADO & CDMC	Enhance education standards
To promote learning for the disabled groups	Establish special school for the disabled	Dec.2013	Kshs.3 Million CDF & county Government	LOKADO & CDMC	Pupils with special needs catered for
To ensure all schools meet the required educational standards	Support needy schools with infrastructure and learning equipments	Dec.2013	Kshs.6Million CDF, County Government	LOKADO & CDMC	Adequate learning facilities
Community Organization :	strengthen water Users association; training and spare parts kit provision	Oct.2013	Kshs.600,000 JICA	LOKADO & CDMC	Improved water management and access by community members
To establish community organizations to manage the projects	capacity build the Community Disaster management committee; training and stationery	Oct.2013	Kshs.250,000 JICA	LOKADO	Improved community resource management

8(b) without external

Hazard/Objective	Activity and targets	When	Resource and providers	Responsible person	Expected change /Results
Drought : To increase access to potable water	Digging of water pipe trenches	Nov.2013	300/- per feet for 12kms water pipeline	Community, CMDC	Increased water access
	Provide local materials for water kiosks making	Dec.2013	Kshs.600,000/- community	Community, CDMC	Increased ownership of project by communities
To increase food production and fodder for livestock feeding	Clearing of bushes(<i>Prosopis juliflora</i> , ploughing and planting of crops	Oct.2013	Community	CDMC Chairperson- Calpeters Sike	Improved food security
	Planting of trees	Oct.2013	Community	CDMC- Chairperson	Increased rainy periods
	Planting of sorghum , maize & vegetables	On-going	Community	CDMC	Increased food security at H/Holds
	Commercial off take of livestock	On-going	Community	Community , Livestock traders	Reduced losses during hazard event
	Basketry and fishing	Nov.013	Community	CDMC & community	Increased income sources
To reduce the expansion of <i>Prosopis juliflora</i> in the range lands(management practices)	Burning and planting of local spp (<i>Epoowo</i>) as a biological control of <i>Prosopis juliflora</i>	Dec.2013	Community	CDMC & community	Increased pasture availability and adequate arable farm land
Insecurity: To increase human and livestock security	Request for more security personnel(KPR & Aps)	Nov.2013	Community	CDMC & county Government	Improved security availability & response
Diseases(Livestock & human):	Sensitize communities to observe personal hygiene	Oct.2013	Community	CDMC	Improved hygiene at the household level
To improve hygiene and sanitation for 4,000 people	Construct latrines	Nov.2013	Kshs.200,000 Community	CDMC	Reduced water borne disease incidences
	Sensitize pastoralists to avail children <5 years for immunizations	Dec.2013	Community	CDMC	Improved immunity against diseases

	Identify committed Community health worker workers(CHWs) to be trained by partners	Dec.2013	Community	CDMC	Improve health care services at the community
To improve animal health and disease control	Vaccinate and treat livestock	Nov.2013	Kshs.30 Million Community/Gok	CDMC & county Government	Increased livestock population
	Train more CAHWs(Disease reporters)	Dec.2013	Kshs.300,000 Community/GoK	CDMC	Increased disease reporting and response
Organization: To establish community disaster management organization	Establish Kerio Disaster management group	Sept. 2013	Community	CDMC & LOKADO	Improved community resource management
	Develop social audit performance indicators	Nov.2013	Community	CDMC & LOKADO	Improved service delivery to the community
To initiate micro finance institutions	Formation of Merry go round /VICOBA groups	Dec.2013	Community	CDMC & LOKADO	Increased access to business working capital
PMEL:	Formulate performance indicators for CAPs implementation	Jan.2014	CDMC	CDMC & LOKADO	Successful attainment of desired results
To ensure the community participate in PMEL	Organize bi-annual reviews	Feb.2014	CDMC	CDMC & LOKADO	

TURKANA SOUTH

9.LOCHWAA

9(a)with external support

DRR objective	Activities/ strategies	Target/ where	When	Resource and Provider	Responsible Persons	Expected change
Community organization Capacity objective; To facilitate DRR Measures and Dev't	Formation of community organization	Women and youth groups of Lochwaa	Oct, 2013	100,000/= Donor	CMDRR, Donor, TUPADO, G.O.K Other stake	Organized effective and functional groups
	Linking community organization to reduce mobilization and implementations.	Elderly in the community groups in Lochwaa	Nov, 2013	150,000/= Donor		Improved effective and functional groups

contingency Plans.	Creating databases for institution related to community strategies and experience.	Elderly in the sub location community of Lochwaa	April, 2014	200,000/= Donor	holders	Reference data published and in place
Hazard Mitigation Objective; To undertake activities that would assist the 80% of affected communities in Lochwaa Sub location to cope up with effects of drought by end of December, 2014	1. Construction of Guest house to be managed by Women Group In Lochwaa location level	Women groups and community in Lochwaa sub location	Oct, 2013	4.0 million, Donor		Improved economic standards / cash economy enhanced
	2. Micro finance support to organize groups in Lochwaa and Lochor emoit	Organized groups and community in Lochwaa sub location	Jan, 2014	4.0 million, Donor		As above
	3. Construction of Livestock Sale yard in Lochwaa	Community in Lochwaa sub location	April, 2014	2.0 million, Donor		As above
	4. Provision of social safety in the most social vulnerable community members in Lochwaa sub location	The vulnerable community members of Lochwaa sub location	Nov, 2014	14.58 million, Donor		Community resilient against hunger hazard
	5. Livestock restocking to the most affected community members in Lochwaa s/location and Lochor emoit	The destitute and most affected members of lochwaa sub location	Feb, 2014	8.1million, Donor	As above	As above
	6. Drilling and equipping 4 No boreholes at Lolupe, Nakeju amosing, nginaluki and Loreng	Pastoralists and livestock in said grazing areas.	March, 2014	6.0 million, Donor	As above	Healthy livestock and pastoralist less stress for herders and women
	7. Construction of Health centers at Lochwaa	Community in lochwaa sub location	Oct, 2014	25.0 million, Donor	As above	Improved health standards for community in Lochwaa sub location
	8. Construction of 2 No vet stores and vet drugs in lochwaa sub location and Lochor emoit	Pastoralists communities in these places	Aug 2014	1.8 million, Donor	As above	Healthy livestock
	9. Construction of 2 No of classrooms each at Kachepaluk,	Communities in lochwaa sub location	Nov, 2014	7.2 million, Donor	As above	Improved education standards

	Karoge and Edos					
	10. Construction of 4 No of classrooms and Admin block for Lochwaa Secondary school	CMDRR committee	Jan, 2015	6.0 million, Donor	As above	Improved Education standards
	11. CMDRR Trainings and exposure visits	Organised groups and community of Lochwaa	Dec, 2013	252,500/=, Donor	As above	Informed functional CMDRR committees
	12. Supports to precious stones and quarry, mining by procuring equipments and facilitation of organized groups at Nakabaaran (Kimabur)		Nov, 2013	1.5 million, Donor	As above	Improved economic status of community and cash availability at village level

9(b)without external support

DRR objective	Activities/ Strategies	Target/ where	When	Resource and Provider	Responsible Persons	Expected change
Mitigation Measures	1. Afforestation	Community of Lochwaa sub location	Oct, 2013	100,000/= Community	CMDRR, Donor, Community and other Stakeholders	Improved environment
	2. Buying and selling of hard core and ballast	As above	Jan, 2014	150,000/= Community	As above	Improved economic status
	3. Stacking and selling of dry wood	As above	Nov, 2013	50,000/= Community	As above	As above
	4. Merry-go-round to youth and women groups	As above	Oct, 2013	160,000/= Community	As above	As above
	5. Construction of semi-permanent building for seminars and conferences	As above	March, 2014	100,000/= Community	As above	As above

10LOKICHAR

a)With external support

COMMUNITY ACTION PLAN FOR LOKIRIAMA (Community funded)

Activities	Objectives	Resources needed	Provider/ responsible	Time frame (by when)	Expected changes/outputs
1.Afforestation	To increase vegetation cover and environmental services.	-Seedlings -watering cans (100,000 KES)	Community	March 2014	-Vegetation cover increased -Erosion reduced -Fodder available -Construction material available
2. Stacking of hardcore and ballast	To improve efficiency of the IGAs by reorganizing it.	Man power (20,000KES)	Group members	October 2013	-More resources accruing from the activity. -Self employment
3. Establishment of Aloe vera farm	To provide raw material for detergent processing	Land Man power Seedlings (50,000KES)	Group members	November 2013	-Improve household income -Improve health
4. Initiating mobile schools at Lochoralomala and Atalokamusio	To provide basic education for children of pastoralists	Local building materials (40, 000KES)	Community	January 2014	-Literacy level improved in pastoral communities

b)without external support

DRR Objective	Activities / Strategies	Target /Where	When	Resource And Providers	Responsible Persons	Expected Change
Mitigation Measures	Buying and selling of Hides and skins	Community of Lokichar - Achukule	NOV, 2013	25,000/= Community CMDRR	CMDRR, Donor, Chief, Committee and other stake holders,	Improved economic status of the community
	Brick making	Organized groups in Lokichar sub location - Lomoomug	April, 2014	Community of Lokichar sub location 15,000/=		
	Poultry keeping	Organized groups in Lokichar sub location Moruang'or IDP	Nov, 2013	6,050/= Community of Lokichar sub location		
	Detergent making using aloe vera	Organized groups in Lokichar sub location, Kalodicha	June, 2014	100,000/= community of Lokichar sub location		
	Construction of semi-permanent house for food storage	Community of Lokichar sub location - Kanapus	Jan, 2014	70,000/= Community of Lokichar sub location		

TURKANA EAST

11.LOPII

11(a)with external support

DRR objective	Activities/ strategies	Target/ Where	When	Resource& Provider	Responsible Persons	Expected change
Community organization Capacity objective To facilitate DRR Measures and Development construction plans of population of 7,668 population in Lopii sub location by mid 2014.	Formation of community organization i.e WUA, VICOPA, CAHWs and Organized Groups	Community, Women groups, Livestock producers, traders in Lopii S/Location	Oct, 2013	100,000/= JICA	CMDRR committee, NGOs and GOK staff	Organized effective and functional groups
	Linking community organization groups to line / agency for resource mobilization and implementations.	As above in Lopii location	Oct, 2013	150,000/= JICA		Improved, effective and functional groups
	Creating databases for institution related to community strategies and experience.	Elderly person and provision Administrative representatives at Lopii sub location.	By Jan 2014	200,000/=JICA		Reference data document and in place
Hazard Mitigation Measures; To undertake activities that would assist the 50% of affected community in Lopii sub location to cope up with effectiveness of drought by June 2014	Provision of reliable water sources e.g Drilling of a Borehole at Kaaruko – Ng'imeyana	Small scale business groups and organized women groups in Lopii sub location	March 2014	4.0 million JICA		Better health standards by use of portable water.
	Construction of Dispensaries at Lopii at Kaaruko centers.	Community in Kaaruko and Lopii villages	Jan, 2014	4.0 million JICA		Improved health standards for targeted communities
	Support to live stock trade and marketing to 4No. organized groups in Lopii and Kaaruko	Small scale business groups and organized women groups in Lopii sub location	Jan 2014	2.0 million JICA		Community cushion against drastic effects of drought and improved livelihoods and cash economy

	Construction of 2 No of classrooms each at Lopii and Kaaruko Primary Schools	As above	April 2014	14.58 million JICA	As above	Improved health levels for the target communities
	Provision of 2No. sets of communication gadgets e.g Radio calls and V.H.F, Thuraya	As above	June 2014	1.0 million JICA	As above	Effective early warning system against insecurity and free flow of information for mobile health services

11(b)without external support

DRR objective	Activities/ strategies	Target/ Where	When	Resource and Provider	Responsible Persons	Expected change
Mitigation Measures; 80% of affected community in lopii sub-location to cope up with effects of drought by Dec 2014	1. Construction of a semi permanent house for storing food stuffs (wholesale) in Kaaruko and Lopii	Community in lopii sub-location	Dec , 2013	100,000/= Community	CMDRR, Donor, Committee and other relevant stakeholders	Improved economic status of the community
	2. Brick making in Lopii	As above	June, 2013	50,000/= community		As above
	3. Ballast stacking for sale	As above	March, 2014	20,000 /= Community		As above
	4. Chicken merry-go-round	As above	Nov ,2014	30,000/= community		Improved economic status of the community and cash availability at village level.

Attachment B4-1

*Training Module for DMC training
on Basic Functions of the DMCs
and Activities based on EWS*

Training on basic functions of the Development Committee and Activities based on EWS

Training module

First draft

Prepared by
JICA ECoRAD project

Timetable

Time	Contents	Facilitator
Day 1	Session1: Early Warning System and roles of Development Committee	
9:00 – 9:30	Registration and introduction	JICA ECoRAD
9:30 – 11:00	Early Warning System (EWS)	NDMA
11:00 – 11:30	Tea break	
11:30 – 13:00	Practical judgement of EWS and necessary action to be taken	NDMA
13:00 – 14:00	Lunch break	
14:00 – 16:00	Drought mitigation at alert/alarm stage – general idea	JICA ECoRAD (Grace)
16:00 – 16:15	Tea break	
16:15 – 17:00	Roles of the Development Committee on EWS	JICA ECoRAD (Hosea)
Day 2	Session 2: Technical trainings on actions to be taken as the community for mitigation of drought situation and for enhancing preparedness as a community	
8:30 – 9:30	Recap of the Day1	JICA ECoRAD (Hosea)
9:30 – 11:30	Early livestock off-take (lecture and visual model demonstration)	JICA ECoRAD (Ameripus)
11:30 – 12:00	Tea break	
12:00 – 13:00	Enhancing preparedness (vaccination)	Livestock officer
13:00 – 14:00	Lunch break	
14:00 – 15:00	Lecture on range land management and reseedling	Livestock officer
15:00 – 17:00	Collective action to enhance preparedness (Practical session for rangeland management and reseedling)	JICA ECoRAD (Hosea)
Day 3	Session 2 continued, and Action Plan with demonstration of awareness raising for the community	
8:30 – 9:30	Recap of day2	JICA ECoRAD (Ameripus)
9:30 – 10:30	Preparation of demonstration of the selected action	JICA ECoRAD (Hosea)
10:30 – 11:30	Presentation of the demonstration	JICA ECoRAD (Hosea)
11:30 – 11:50	Tea break	
11:50 – 13:30	Action plan making and presentation (DC development, educating the community and collective action)	JICA ECoRAD (Grace)
13:30 – 14:30	Lunch and closing	

~~~~~ Session 1. ~~~~~

Early Warning System and roles of DC

Early Warning System

Objectives

- To enhance understanding of the committee members on the EWS
- To equip the committee members with skills to share with the community the EWS and actions to be taken in each stage
- To make the committee members recognise their roles in drought management
- To encourage the committee to play a role of umbrella coordination body on

1. Early Warning System (by NDMA)

- Explanation of the basic concepts of the EWS
- Evaluated situation of each stage of the EWS
- Actions to be taken in general at each warning stage

<<Contents reference: NDMA PPT presentation materials>>

Concept of EWS

What's drought management?

Drought management entails processes and strategies engaged in reducing drought adverse effects and preventing it turning into famine.

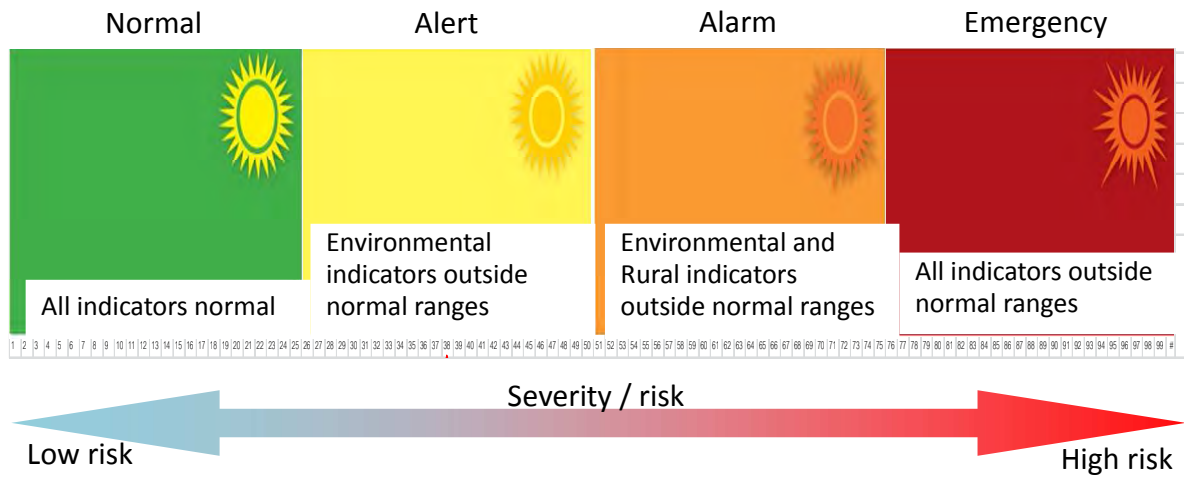
Embraces on strengthening the existing local capacities through sustainable utilization of natural and human resources in enhancing resilience.

Drought Early Warning Indicators

These are signs that the onset and effects of a drought and are either measured or observed

- (1) Environmental Indicators: Monitor trends on environmental stability and effects to food security – Rainfall, forage, water.
- (2) Rural Economy Indicators: Look at food availability and effects to food security – e.g Livestock productivity, crop production
- (3) Human Welfare Indicators: Deal with access and Utilization of food by the households and their effects to food security, Markets (crops and Livestock

Determination of EWS Phases or drought status and trends



NDMA assess the situation of EWS phase and inform the committee.




Inform people with the updated EWS phases

The committee is to put the respective colour of flag according to the EWS:

- Green ■ for **Normal** situation,
- Yellow ■ for **Alert** situation,
- Orange ■ for **Alarm** situation,
- Red ■ for **Emergency** situation.

The committee should inform the community people about the colour and the stage of the EWS, and more importantly, what the colour means and what they should do to mitigate drought effect.

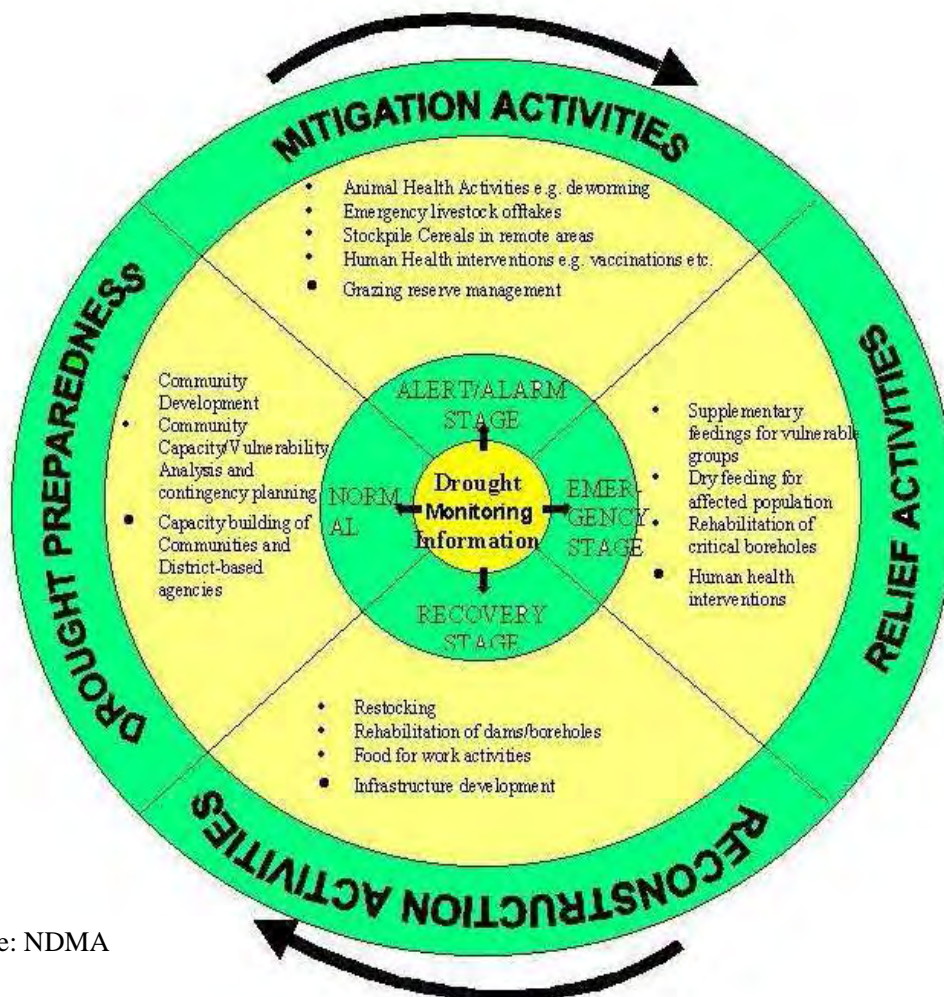
Judging the situation with the stage of EWS

Stage of EWS	Expected situation:
<p>Normal stage</p> 	<ul style="list-style-type: none"> • Pasture and foods are available as usual. Market price of livestock is fair. • Let's do what we cannot do once drought come, such as preparing fodder, conserving dry season grazing zone, etc.
<p>Alert stage</p> 	<ul style="list-style-type: none"> • Availability of pasture is low (how low??) • Recommended to start take animals to farther areas than usual dry season. • There is higher possibility of the situation going worse, that will cause food scarcity and increase of price. It is recommended to sell animal before the price of animal decrease, and buy food stuffs before the price goes up.
<p>Alarm stage</p> 	<ul style="list-style-type: none"> • Food availability is low, means we can expect the price of food stuffs will shoot up. It is recommended to prepare and arrange for purchasing necessary food stuff enough to survive during drought.

Phase of Drought management

- Drought preparedness : (contingency planning and other readiness measures before drought on set)
- Mitigation measures/responses are ensured to reduce drought impacts in order to delay or prevent a famine crisis.
- Relief/assistance (emergency operations)
- Recovery or reconstruction measures after the drought to facilitate fast normalcy

Drought Cycle Management



Source: NDMA

DROUGHT MITIGATION MEASURES AT NORMAL AND ALERT STAGE

Drought is an extreme climatic event that is part of normal climate, and is frequently observed in areas all over the world. Drought phenomenon in most cases triggers emergency responses when the impact on local people is severe. The impacts depend upon the local peoples vulnerability to such shocks, and hence the need to understand the vulnerability to droughts as a prerequisite of designing preparedness, mitigation and relief policies and programmes. This would in turn prevent acute disaster by reducing disaster risk at the community level, through identification of the risks and translating the knowledge into preventive actions. At community level, the local people would become more resilient and prepared to respond to the drought disaster, which would then be further enhanced by government disaster preparedness efforts.

Mitigation measures are actions taken before or at the beginning of drought to help reduce impact of drought.

In this case we want to see drought mitigation measure in two stages of drought cycle management (normal stage and alert)

First we want to know what mitigation means in drought context

Mitigation measures are actions taken before or at the beginning of drought to help reduce impact of drought.

The Drought Cycle Management model acts as a guide to development agencies supporting pastoral communities in planning and responding to droughts. With the understanding the impact of droughts is increasing, the model places the drought cycle – Normal, alert/alarm, emergency and recovery – as a central reference point for the planning and implementation of programs and raises the importance of more flexible funding. It is action before or at the beginning of drought to help reduce impact of drought.

MITAGATION MEASURES AT NORMAL PHASE

Mitigation measure at the normal situation is activities that can be done during normal situation but would be too late to initiate once the drought stage starts. Activities are aimed to reduce impact of drought, nonetheless it might be difficult for people to realise importance as they do not need those during normal period. It is required to remind the community what happened during drought period and what they realised/regretted they could have done before drought came.

Activity 1:

Participants to brainstorm the effect of drought and their preparedness / coping strategies in the stages of drought cycle

Open discussion

- a. Ask the occurrence of drought in a year?
- b. What were the effects/forces of drought?
- c. How prepared was the community? What mistake did you make last time that made you suffer more than necessary from drought, by improving which you could have avoided some negative effects of drought?

They should be in a position to know the forewarnings of drought and the seasonal calendar of the year.

After discussion every group to present their discussion and outcomes in a plenary.

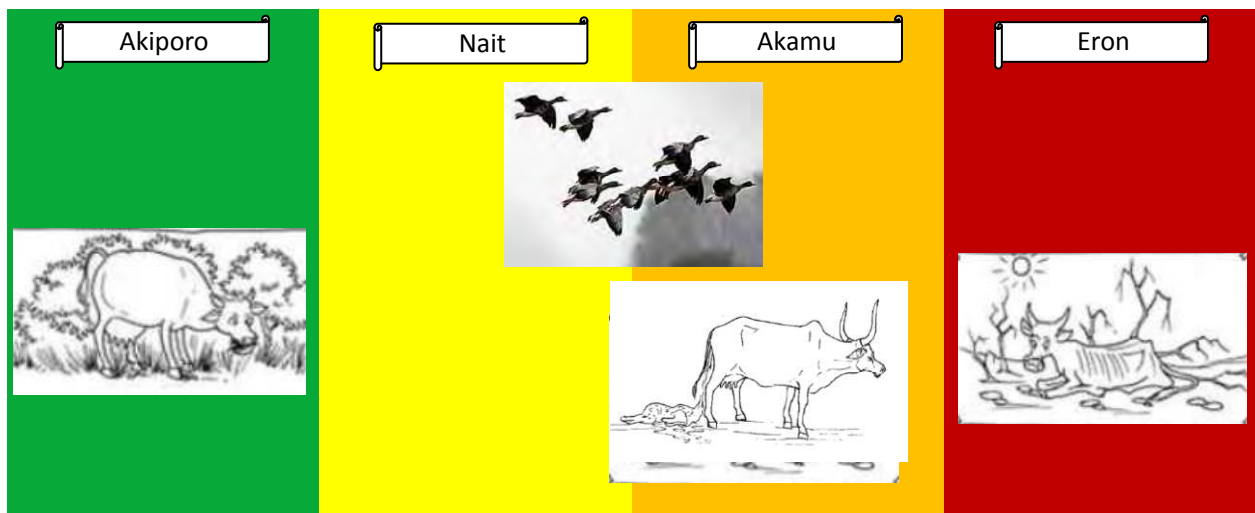
Activity 2:

Ask the participants (open discussion):

Q: What warning signs of drought did they observe? How do they judge whether drought might be coming??

e.g. of answers

- Migration of some birds (many of them moving to the same direction)
 - When many animals have miscarriage
 - Shape of the positioning of stars (constellations)
 - When intestines of animals swell bigger
 - Seers can dream of many graves of people or emaciated animals
-
- Allocate the warning signs in the warning stages judging from the situations.



Source of illustration: Pastoral Field School- Guidelines for facilitation (FAO,2009), Manual for Community-based animal health workers (PACE, 2006)

- Ask the participant when the situation is declared a drought and mention stages of drought and characteristic of each.

Q: How were the surrounding situation / characteristics of the situation (such as environment, availability of pasture, situation of water source, situation of livestock (health and body size of animals), crops/food availability) in each stages?

Drought Warning stage	Situation / characteristics				
	Environment	Pasture	Water source	animals	Crop, food availability
Akipolo					
Nait					
Akamu					
Eron					

NOTE!!

Even if you see lots of pasture and atmosphere is quite green because of some rain, it can be 'Alarm (Nait)' stage (Yellow flag) if the amount of rain received is less than usual year and we expect severer drought in coming months. Therefore, it is still important to judge with EWS in addition to their own traditional ways to prepare for drought.

What do they normally do when they observe the traditional warning signs??

Warning signs	What action they take

Use the visual (pictorial) material of actions to be taken and allocate when they need to take those actions according to the warning stages

Example of actions ;

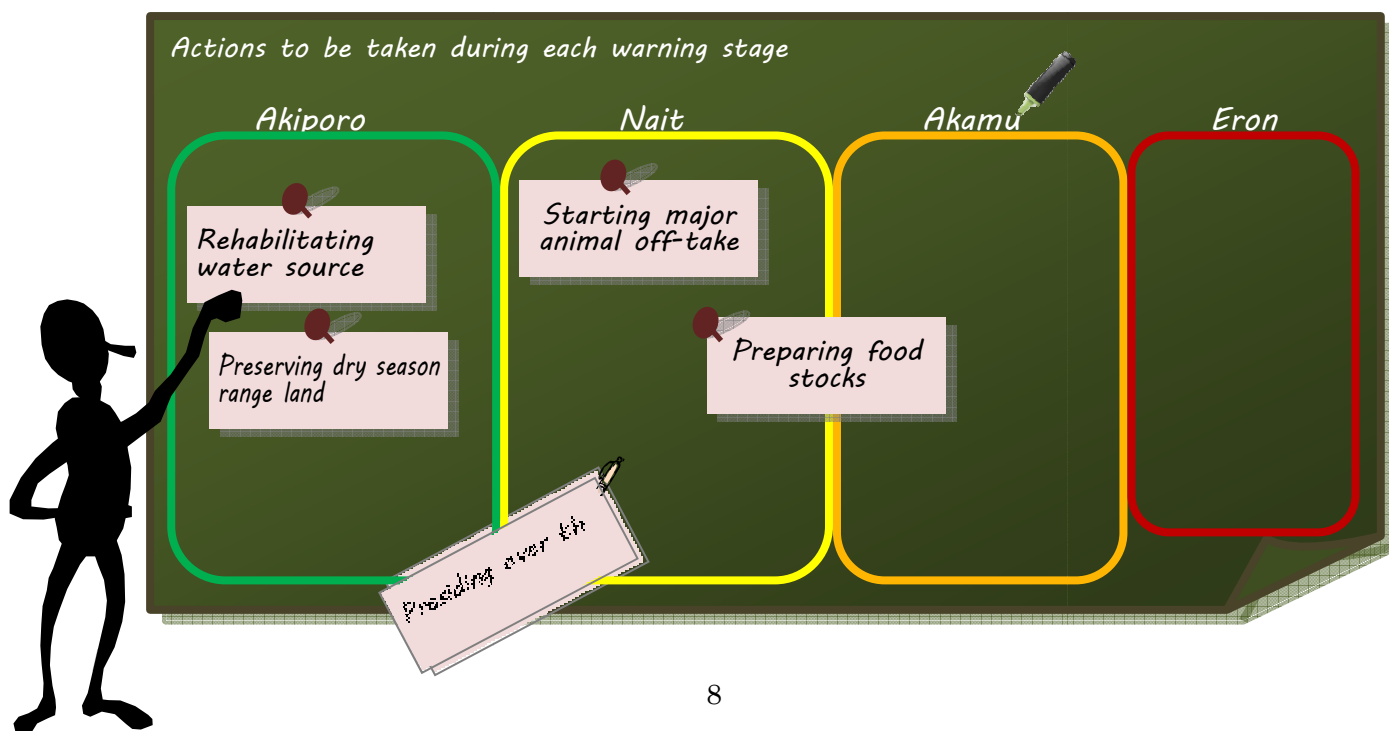
During Normal stage

- Pasture management, rangeland management
- Mainstreamed conflict mitigation aimed at increasing access to vital resources
- Water management and assuring function of the water source
- De-silting of water pans and rehabilitation of other water sources
- Provide training ranging from business management to animal health
- Planting of cereals, fodder cultivation
- Vaccination and deworming of animals (to prepare the animal to be prevented from diseases during dry and drought period when animal tends to become weak)
- Drying of excess milk and milk products
- Livestock off take (to sell with a good price when animal is big and healthy)
- Castration of male livestock (to make them grow bigger)

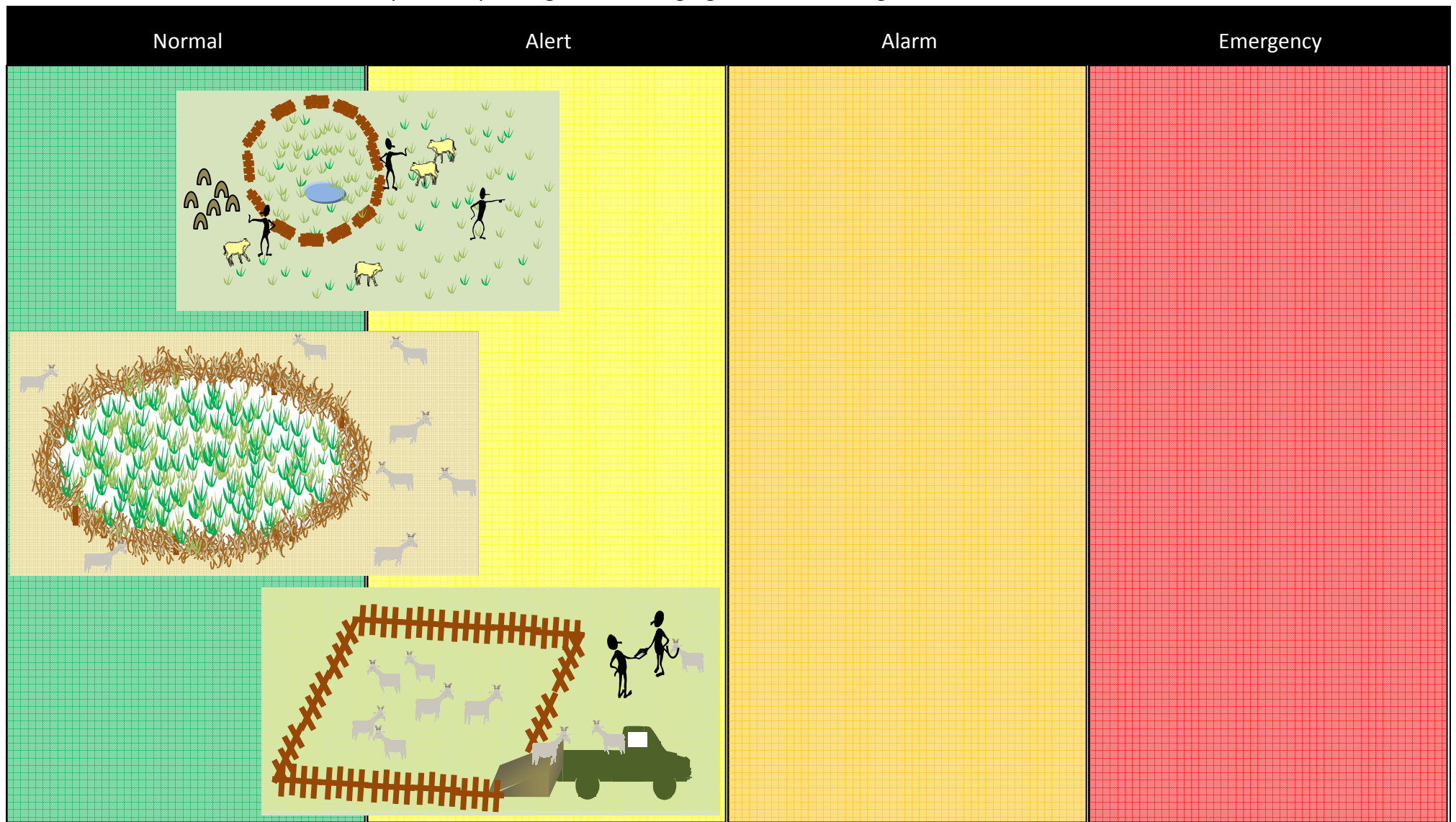


During Alert stage

- Major Livestock off take (before the animal get weak and thin)
- Natural resource sharing negotiations
- Preparation of food stock
- Cereal banking
- Vaccination and deworming of animals
- Preservation of meat
- Starting mitigation



Then let them allocate the actions they take responding each warning signs in the EWS stag



Activity 3

Work with the same groups

List mitigation measures or strategies the communities practice during normal/alert stage of drought

- Give your understanding of drought mitigation
- Practice of mitigation in various communities represented
- Challenges faced by communities in drought mitigation
- Recommendations of every group

MITIGATION MEASURES AND THEIR CHALLENGES IN NORMAL AND ALERT STAGE

MEASURES	CHALLENGES	RECOMMENDATION
AT NORMAL STAGE		
Livestock market	<ul style="list-style-type: none"> pastoralists view livestock as assign of wealth selling livestock is only done when there is need other basic needs livestock are only sold when there is pressure from drought hence affecting quality of livestock Most areas have no market access Market information on price 	<ul style="list-style-type: none"> Sensitize the communities on importance of selling livestock before the effect of drought hits sell health livestock for better prices establish livestock market for easy access link with producer organization and other relevant stakeholder for market prices
formation and strengthening of water management committee	<ul style="list-style-type: none"> it is hard to sustain committees because there is no projects ownership lack of capacity building absence of rules and regulations to enforce monthly collection of money for rehabilitation of water facilities 	<ul style="list-style-type: none"> sensitize on project ownership and community contribution towards projects capacity building encourage community contribution towards projects through monthly contribution
Natural resource negotiation/rangeland management	<ul style="list-style-type: none"> conflict on sharing of pasture/rangeland lack rangeland management committee/association historical conflict e.g. pokot and Turkana ,Turkana and Dodoth lack of community dialogue on importance of rangeland management 	<ul style="list-style-type: none"> community dialogues cross boarder peace dialogues Trainings
Training / capacity building on business/animal management(VICOBA)	<ul style="list-style-type: none"> resistance to change from over reliance on pastoralism 	<ul style="list-style-type: none"> new approaches to animal management and IGAs

AT ALERT STAGE		
De-silting of water pans/rehabilitation of water facilities	<ul style="list-style-type: none"> • community willingness • lack of community contribution • absence of social audit in the community 	<ul style="list-style-type: none"> • project ownership towards sustainability • monthly/quarterly auditing of water facilities
STRATEGIC STOCK PILLING OF CEREALS	<ul style="list-style-type: none"> • Lack of potential farming in the county • lack of capacity building on importance of cereal banking/and step 	<ul style="list-style-type: none"> • Need to target schemes e.g.turkwel,kalemnyang ,katilu and morulem • incorporate government
FODDER PREPOSITIONING (acacia pods, sorghum and maize stalk,prosopis pods)	<ul style="list-style-type: none"> • lack of knowledge on availability of fodder 	<ul style="list-style-type: none"> • Let the community realize available fodder for livestock that needs to be prepositioned • Do survey in given areas in order to advise
DEWORMING/VACCINATION CAMPAIGNS	<ul style="list-style-type: none"> • unsettled life style of pastoralist community • ignorance • 	<ul style="list-style-type: none"> • sensitization on importance of deworming and vaccination • mobile veterinary services

Roles of the Development Committee on EWS

Roles and action to be taken based on the warnings by the EWS

Discuss with the participants on the roles to be played by the committee members regarding the actions to be taken by the community based on the drought warnings

➤ Roles of the DC

- ✧ Enhancing awareness of the community on EWS and meanings of the warning stages

→ conducting community meeting to explain the system (as the next step)

- ✧ Instruction to the community based on the EWS stage

- Practical training on how to enlighten the community
- Analysis of the warning of WES and decides on what actions to be taken at each stage (e.g. destocking with marketing of the livestock, preparation for the feeds, preparation for the contingency water source,,,,,) both for collective actions and individual actions of the community members.
- How to instruct the community to take the decided action (*Practical session in the following training*)
- How to take action for the collective action (including the activity with external support or government schemes)



- ✧ Coordination of the development and relief supports

- Establishment of the referral system from the donor agencies to the Committee directed by administrative lines (strategy to establish referral system to from the organisation like NDMA, DDO, or relevant officers such as Chief and Assistant Chief).
- Prioritisation of the activities and allocation of the resources. (practical session with demonstration)
- Appointing an appropriate implementing body in the community to handle the activity (e.g. WUA, SHG etc) and DC to supervise the activity.
 - Discussion on the roles of the DC to oversee the activity

Roles of the Development Committee in the normal situation

- Expected roles of the committee
 - ✧ Periodical meeting of the committee to assess necessary actions based on EWS
 - ✧ Periodical meeting with the community (reporting of the activities and sharing of emerging issues by calling baraza or utilising any opportunity of gathering)
 - ✧ Advocate / raising awareness of the people on preparation for the drought situation (advocating early destocking, diversification of the livelihood including small scale business and income generating activities, saving of cash, food and pasture, etc)
 - ✧ Updating the CAP and priorities of the activities and identification of the fund both internal and external
 - ✧ Supervision of the activities within the community
e.g. auditing of the WUA,
 - ✧ Periodical reporting to NDMA, DDC(DDO) or any other relevant government authorities
 - ✧ Coordination with the external support and government schemes.
 - ✧ Pasture management – technical trainings to be done later
 - ✧ Negotiation with other/neighbouring community on pasture management and to avoid conflicts



Source: Pastoral Field School-
Guidelines for facilitation (FAO,2009)

~~~~~ Session 2. ~~~~~

Technical trainings on actions to be taken as the community for mitigation of drought situation and for enhancing preparedness as a community

Actions to be taken as the community for drought mitigation to enhance preparedness

Objectives

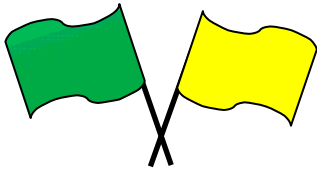
1. To facilitate the **mitigation activities** during alert/alarm stage by;
 - enhancing understanding of the committee members on the actions to be taken at the alert/alarm stage of the EWS.
 - encouraging the committee members to take leading action on during the alert/alarm stage
 - enabling committee members to teach/facilitate the community on the actions to be taken during alert/alarm stage
2. To facilitate establishment of **community's collective action** to enhance preparedness by;
 - introducing potential community activities to enhance preparedness
 - equipping the committee members with necessary skills to implement the activity
 - encouraging the committee members to initiate the community action with consencuc of the community

Mitigation Activities

DC members are expected to be **role models** on the actions to be taken at the alert/alarm stage of EWS. The actions to be taken with the leading model of the committee members are as follows.

- Livestock off take (Marketing livestock at the appropriate timing and selection of animals to be sold)
 - benefit of the early destocking and risk of holding animals during drought period, constraints and perspectives of the community, how to make the community understand and take action)
- Advice on vaccination of animals,
 - Allocation of livestock in available grazing area and negotiation with people in the grazing area to avoid conflicts





LIVESTOCK OFF TAKE **BEFORE OR AT EARLY STAGE OF THE DROUGHT**

Activity to be done during 'Normal' or 'Alert' stage (Green or yellow flag period)

Introduction:

Livestock plays an important role in the Turkana socio-economic development and contributes towards household food and nutritional security. It is also used as a medium for social exchange in the payment of bride price, fines and gifts to strengthen kinship ties.

Investment in livestock remains low and mostly subsistence based despite its massive potential. This has been precipitated by insecurity, low knowledge on off take levels, Long distances to markets and poor resource base by pastoralists.

Livestock off take has been one of the most important actions to be taken to mitigate impacts of drought. However, it has not been practiced as expected mainly due to the following reasons.

- inadequate market information,
- poor market access due to poor infrastructure for marketing, especially roads, livestock holding grounds,
- prevalence of trade-sensitive animal diseases and pests
- community attitude on stoking of animals
- misuse of 'destocking' by external agencies

To increase market access for livestock and livestock products and improve livestock off-take, community sensitization and dissemination of market information workshops need to be organized at villages around potential markets.

The objectives being:-

- To promote the idea of selling livestock during alert/alarm stages of drought cycle
- To strengthen linkages between livestock producers and market off take
- To build the capacity of producers to benefit from early sale of livestock

The Outputs being:-

- Livestock producers sale more livestock at right stages of drought cycle.
- Linkages between livestock producers and market off take.
- Capacity of producers ensure functioning of markets

Dialogue /Community sensitization meetings:

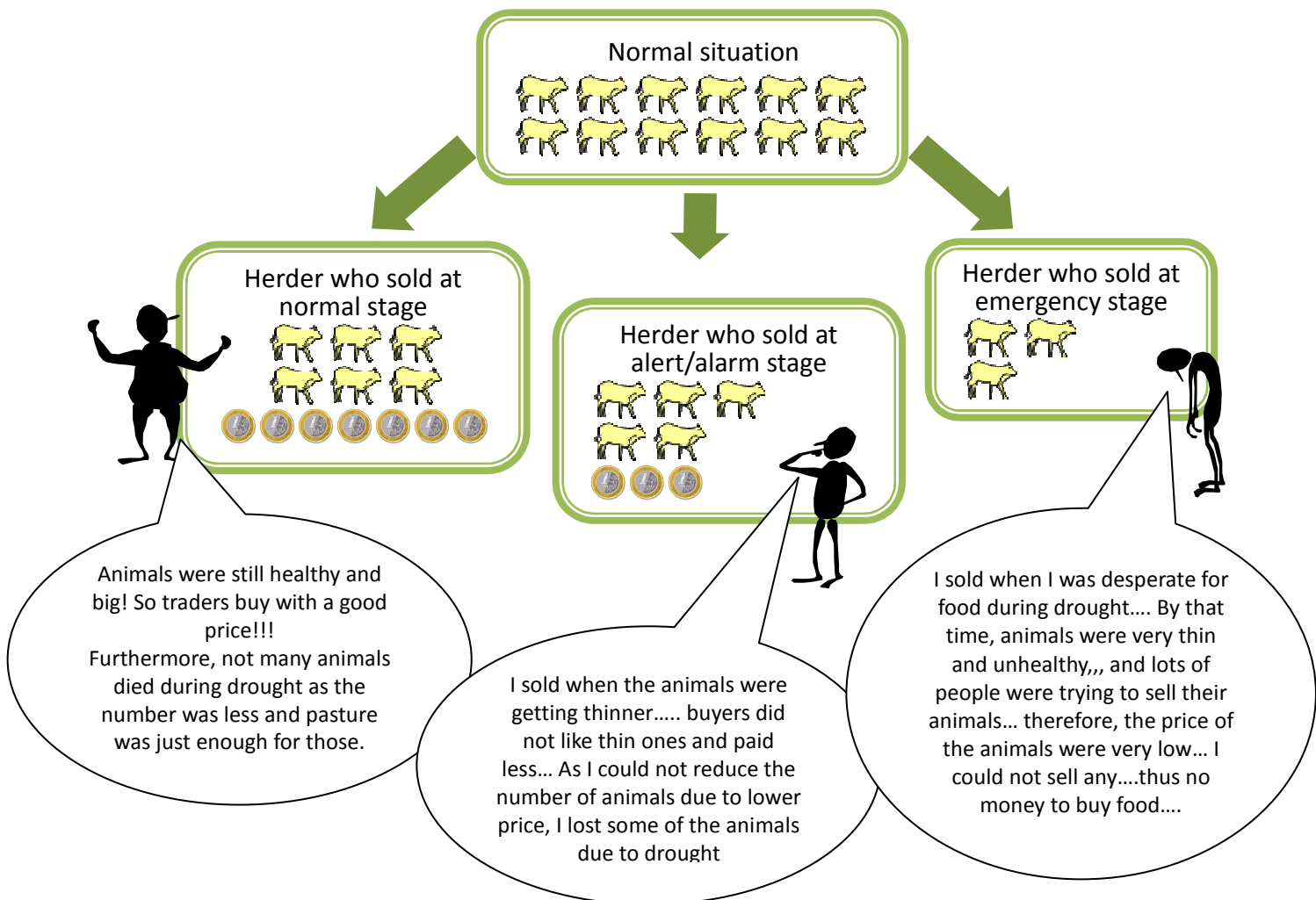
Pastoralists require sensitization on the benefits of livestock off-take while animals are still healthy to benefit from improved prices and invest the cash on other productive activities as well as saving cash for emergency cases such as drought. Since they attach a lot of value on their livestock assets, to change their attitude and embrace the idea of selling part of the castrated herd for money, a lot of awareness needs to be carried out.

In this process, they are taken through **identification of constraints they face while marketing livestock and the possible solutions to increase off take.**

Activity 1: Brainstorm on challenges to sale mark of livestock at alert/alarm stage:

The discussions will be built from the presentation on Normal (Nakiporo), Alert (Nait), Alarm (Akamu) and Emergency (Eron).

Let 3 pastoralists undertake **Proportional piling exercise** showing 3 producers (one who sold a few livestock normal stage, the other selling many alert/alarm stage and the other selling a lot during Emergency stage).



From the exercise in groups let the participants discuss the questions:-

A). What did you see from the exercise?

Possible Responses

- *3 people selling livestock at different stages*
- *First one selling a few animals at normal stage*
- *The second selling many during alert/alarm stage*
- *The third selling a lot of animals at Emergency stage*

B). What do you think is the scenario?

Possible Responses

- *Third person sold a lot of livestock during wrong time*
- *First one sold a few but receive good prices due to low supply*
- *Second producer sold many at the right time of the year when prices are good and demand is high*

C). What is the right time to sale our livestock?

Possible Response

- *During normal and alert/alarm stages of the drought cycle.*

D). What are the benefits of selling at the above stages and reasons for selling ?

Possible Response

- *Prices are good and favorable.*
- *Many buyers available*
- *Demand for healthy livestock is high and sometimes supply is low*

E). What makes our producers sale livestock during wrong/emergency stages of the drought cycle?

Possible Responses

- *ignorance*
- *Communal ownership of livestock*
- *Loving livestock more than cash*

f). What advice can we offer to enable producers change their attitude and sale more livestock at the right time?

Possible Responses

- *Be commercial producers as opposed to subsistence livestock owners.*
- *Sale more livestock to benefit from improved prices in the market*
- *Think of livestock rearing as generating income to invest in other livelihoods that are secure.*
- *Think of reducing the risk of livestock losses (asset losses) in case of calamities*
- *Think of drought preparedness strategies as you managed your assets.*

Facilitators' input:

The producers, who sold healthy livestock at the right time and benefitted from favorable prices, fetched good money and were able to achieve their goals.

Those who sold at emergency stage got poor prices, sold many livestock at throw away prices as the animals were weak and emaciated and the money got would most likely not sold the needs desired.

Summary of session

Livestock producers need to be sensitive to continue selling livestock during the stages of normal, alert/alarm to benefit from good prices and healthy animals and invest the cash in productive livelihood projects.

During the normal stage pasture and browse is plenty, animals are strong and buyers are available as well.

Alert/alarm stage, pasture is still available and livestock are strong and in addition demand for livestock is high.

Emergency stage is not the right time since animals are weak, no pastures or browse available and demand of livestock is low.

Roles of stakeholders:

In Groups: Then the community is taken through the **roles of each stakeholder in increasing livestock off take** in Turkana.

The **roles of livestock producers and traders** are stated. i.e.

1. Livestock producers:

- *Treat livestock against diseases as mitigation measures so that they are healthy to fetch favorable prices,*
- *protect livestock against predators and enemies and*
- *Sale livestock to solve basic needs and development instead of subsistence means only.*

2. Livestock traders:

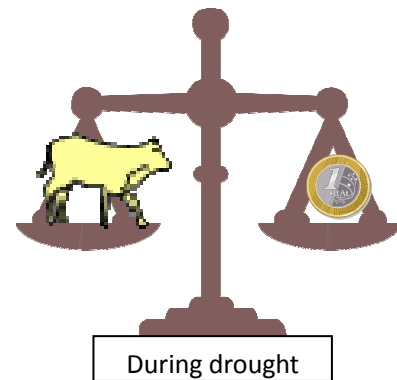
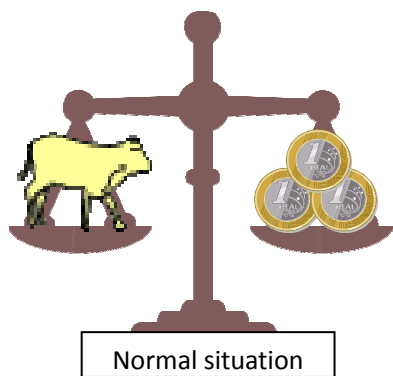
- *Buy livestock offered for sale at favorable prices to encourage pastoralists,*
- *provide market information to producers so that they are aware for decision making,*
- *Reduce the distance taken by producers trekking to markets by organizing market auctions where competition is encouraged.*

Benefits of early sale of Livestock:

Then, the pastoralists are **probed on the benefits/importance of selling livestock while still healthy** instead of waiting to be weakened by drought.

For example:

1. *To benefit from good/high prices by selling when animals are healthy.*
2. *To reduce livestock population to manageable numbers with minimal browse/grazing resources, thus survival rate of the remaining animals will get higher as you can avail more pasture for remaining less number of animals..*
3. *Enable producers to address basic needs of the family that require money. (by keeping cash that will not devaluated by the drought instead of keeping the livestock that can be devaluated or even die during drought*
4. *Stocking in form of currency that is more exchangeable with other commodities than livestock when you need to buy things*



Experience sharing sessions:

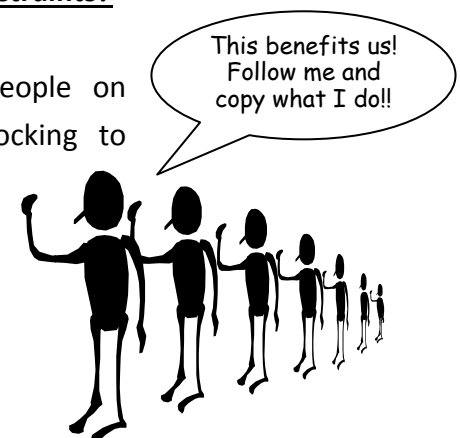
Pastoralists are asked to give a real story of how they/he benefitted from selling his healthy animals at the right period of the seasons, what he did with the money and what he experienced and what advise he would give to the rest of the community.

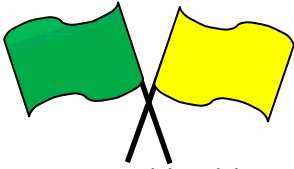
At least 2 experiences to create awareness and change the perception that selling livestock is planning to be a bother to the rest of the community.

What can we do as DC members to help people to overcome the constraints?

e.g.

- Repeated awareness raising and education of people on importance and benefit of early voluntary destocking to change their mind setting and customs to adjust for the emerging situation
 - Being a role model for people to replicate as people tend to try by observing others practicing.





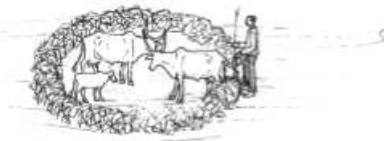
LIVESTOCK HERD HEALTH MANAGEMENT

Activity to be done during 'Normal' or 'Alert' stage (Green or yellow flag period)

Herd health management is the routine practices the livestock owner does in management of his/her animals for better productivity. During drought, herds get weak and difficult to fight against disease. This increase higher mortality of herds during drought. Therefore, it is important to prepare your herds being strong enough during normal period and avoid disease that put the herds in danger during drought.

Ways of Herd health management are;-

- changing and clean-up bomas when drug has piled –up
- hoof trimming
- isolation of sick animals
- tail docking in sheep
- spraying (use acaricide) to control ticks, fleas, mites and lice
- giving supplements to animals e.g. minerals licks
- treating of sick animals
- control inbreeding by castration and curling
- giving animals clean drinking water
- feeding animals well on healthy green pastures
- ensure the new-born take/suckle colostrums
- making good enclosure (bomas) to protect against predators bad weather conditions and theft
- presenting animals for vaccination whenever it is done
- deworming of animals regularly
- using bulls of good quality to breed the herd
- reporting disease outbreak especially the Notifiable disease
- good handling of animals



Source: Pastoral Field School- Guidelines for facilitation (FAO,2009)

Illustration: Manual for Community-based animal health workers (PACE, 2006)

Disease control measures include

- Vaccinations
- Control of parasites using acaricide and deworming
- Quarantines
- Proper use of drugs
- Reporting of diseases to the relevant authorities

VACCINES AND VACCINATIONS.

They are live disease causing organisms which injected into an animal to elicit a reaction that will protect the animal against that particular disease for a given period of time. White blood cells act as soldiers to protect the animal from infection. The act of injecting the vaccine into an animal is called vaccination.

Examples of vaccines, dosages and site of injection are shown in the table below;

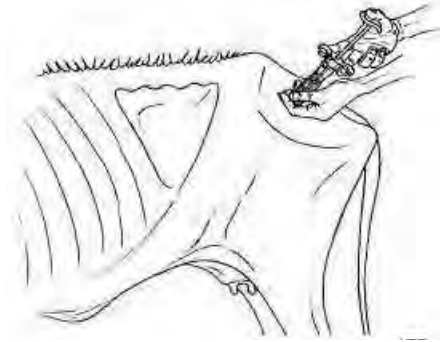


Illustration: Manual for Community-based animal health workers (PACE,

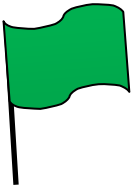
SPECIES	DISEASES	VACCINE	DOSAGE	SITE /ROUTE
Cattle	Rinderpest	Rinderpest	2mls	Sc neck
	Foot & mouth D	FMD	3mls	Sc neck
	CBPP	CBPP	0.5mls	Tip of tail
	Black quarter	Blanthax	2mls	Sc neck
	Anthrax	Blanthax	2mls	Sc neck
	Lumpy skin disease	LSD	2mls	Sc neck
Goats	CCPP	CCPP	1ml	Sc neck
Goats & Sheep	G/S Pox	G/S pox vaccine	1ml	Sc neck
Poultry (chicken)	Newcastle	NCD	1 drop	Nostrils
	Fowl Typhoid	Fowl Typhoid	1 mls	Thigh muscle
	Fowl pox	Fowl pox	Jab	Stab in wing
	Gumboro D.	Gumboro	0.5mls	Drinking water
Dogs	Rabies	Anti Rabies vaccine	1ml	Sc neck

NB: All vaccines must always be kept at 2-8 centigrade

The cooling facilities from the point of manufacture to the field during vaccination are called COLD CHAIN. These facilities include:-

- Cold rooms
- Refrigerated vehicles
- Cool boxes
- Refrigerators (Electric, gas, Kerosene)
- Vaccine carriers





RANGELAND MANAGEMENT

Activity to be done during 'Normal stage' (Green flag period)

Brainstorming on Pastoralism in dry land and range management

Open discussions

- a) Which animals are common in dry land areas?
- b) List major challenges of Pastoralism in the dry land areas
- c) What is rangeland and range management?

What is rangeland and range management?

Rangelands are vast natural landscapes in the form of grasslands, shrub lands, woodlands, wetlands, and deserts. Types of rangelands include tall grass and short grass , desert grasslands and shrub lands, woodlands, savannas. Rangelands do not include barren desert, farmland, closed canopy forests, or land covered by solid rock, concrete and/or glaciers.

Range Management is a distinct discipline founded on ecological principles and dealing with the use of rangelands and range resources for a variety of purposes. These purposes include use as watersheds, wildlife habitat, grazing by livestock, recreation, and aesthetics, as well as other associated uses.

Rangeland degradation is attributed to overgrazing, termite activity and deforestation resulting in the development of large bare surfaces.

Source: <http://en.wikipedia.org/wiki/>

Why rangeland management is important??

Very common practice of the pastoralist in Turkana during drought period is herd migration. However, 'even though migration can save herds from starvation in times of drought, the practice also brings certain risks'¹.

Let's read the following example and think why rangeland management is important

¹ *Food and Agriculture Organisation of the United Nations, 2009, 'Pastoral Field School- Guidelines for facilitation'*

1. Read out the story in the box below loud for the participants.

The animal herds of Logiel and his brother Loduk

Logiel and his brother Loduk herded their cattle together. The animals had been multiplying well, and the two men were pleased with the large herds they had produced. Logiel planned to purchase a new piece of land for cultivation, when the rains come. The security had been bad for the last several months, so the two men were not able to graze the animals in the fertile pastures to the east. The weather had also been dry, and the grass was getting short from the large number of animals. As the cows became thinner and thinner, many of them began to get sick. A few died from Loduk. The two men sat under the tree to talk, and decided that it was best to migrate towards the swamps. Before they left, Logiel wanted to get his animals branded by the government when they came for vaccination, but Loduk feared the branding and vaccinating and convinced Logiel not to do it. After a ceremony with the local elders, Logiel and Loduk left for the long trip to the swamps. On the second day, at night, they were raided by enemies. Over 110 animals were taken, and two of the herdsmen injured trying to protect their livestock. Only four cows remained. Being far from the villages, there were no army men to help them track the animals. The men were annoyed that their best animals had been taken, leaving them with little hope. Two weeks later, the two men were in the market at a nearby town, and spotted two of the stolen animals. To their surprise, they had been branded with a different brand. They went to the police to report the matter, but were told there was nothing they could do.

2. Ask the participants; "What happened in the story?", "Why do these problems happen?", "Does this also happen in our places?", "What can we do differently to prevent these things from happening?"
3. Lead the group in a discussion on the following points:
 - Is it best to brand animals when the opportunity comes?
 - How could we minimize the security risks involved in migration?
 - Should we work towards peace building to increase the grazing land available?
 - In what situations might it be suitable to reduce the herd sizes in order for animals to remain healthy? (for example; when grazing land is limited or overgrazed, at outbreaks of contagious diseases, at times of drought, in case of too many uncastrated male animals)

Source: Pastoral Field School- Guidelines for facilitation (FAO,2009)

Synthesis of activity

Understanding of the different approaches that are used by community and those promoted by development partners is important in moving towards sustainable development of dry lands. Good traditional system like those involving dry season grazing in wetlands and wet season in highlands should be noted. For example, *Epaka* is a system of preservation of grass during the wet season for use during the dry season, which is also called *Amaire*. In each area, the decision on which areas are to be set aside for preservation is undertaken by elders and chiefs of each *Adakar*. The *Adakar* is composed of a group of herds in an area who move together. During the wet season (*Akiporo*), the pastoralists are spread all over the district. However, during the dry season (*Akamu*,) some of the livestock are taken to the Loima highlands where there is grass, while others remain along the rivers where the *Epaka* are concentrated in the lowlands. Others migrate to Uganda, Ethiopia, Sudan and Pokot (in Kenya) seasonally.

Briefly describe the activities undertaken in the rangeland management approaches listed in the table below and their associated challenges

Working with the same groups formed brainstorm on the following

Management approaches	Description of activities	Challenges
1) Village Land Use Planning Committees (VLUPCs)		
2) Re-seeding (list species used)		
3) Rangeland Users Association		
4) Planned grazing		
5) Communal conservancies		

- a) How can these challenges be handled
- b) Which traditional system of range management are you aware of and how effective?
- c) Which systems (*introduced by donor/ development agents*) are you aware of and how effective?
- d) How is the rangeland degraded and which areas are often more degraded
- e) List some of the invasive species in your working station and associated opportunities and challenges for improved livelihood

Each group of participants should then present to the other group and make adjustment where necessary

Synthesis of activity

Often the terms natural resources management if used without delineating or indicating the resources under focus can become too wide

Natural Resources Management (NRM) component include;

- Grazing system and pasture management
- Livestock management system
- Water management – both surface and underground
- Biodiversity management both flora and fauna, including utilization of flora components like fuel wood and building materials
- Community organization groups ranches

Management as used in natural resources refer to the different forms of organizations that are employed or directed at a particular resources to ensure that utilization is sustainable although sustainability various in different levels

Different systems are used in the country depending on the community and ecological regime. In the much drier area of Turkana animals cannot be kept in one place for longtime due to availability of forage and need to look for water. However, where there is semi-circular bunds maize and millet stalks can be preserved as forage. At the same time invasive species such as Prosopis (Mathenge) are problematic taking huge amount of rangeland. While eradication is hard, use of these invasive species like Prosopis for firewood, charcoal and building can greatly reduce they spread and spare Acacia trees ponds that are used as source of forage

Activity 3- Notes

Management approaches	Description of activities	Challenges
1) Village Land Use Planning Committees (VLUPCs)	The aim of the VLUPC was to facilitate the community in organizing the most effective use of their local resources and to prepare drought contingency plans for before, during and after periods of drought.	one is ensuring the compliance of the community after the agreement of grazing arrangements. some resistance to pasture control from certain elders
2) Re-seeding	Seeding the suitable varieties of pasture to revive the grazing area. It will be more effective in pastoral situation to reserve the area protecting from herds until the pasture roots.	
3) Rangeland Users Association (RUA)	Is a community based organization that is geared towards Improvement and utilisation of all available rangeland in a sustainable manner. The main function of the association is to: <ul style="list-style-type: none"> - To educate and sensitise members on sustainable use of rangeland areas. - To monitor and appraise members on the rangeland situation on pasture availability, use and carrying capacity. 	Uncooperative members of the community Influx of people from the drier northern region Increasing population of both livestock and people Climate change
4) Planned grazing	Planned Grazing: Land owners and land users are trained how to maximise the amount of grass grown in wet seasons and how to make it last through dry seasons through planned grazing. It is essentially about having the right animals in the right place at the right time for the right reasons.	Uncooperative members of the community Influx of people outside the planning community region Increasing population of both livestock and people Climate change

Practical action for Rangeland management

In pasture management the committees were informed that in order to have proper pasture management they have to know:-

1. Types of fodder
2. Fodder establishment
3. Conservation of pasture (reseeding and establishment of pasture reservoir)
4. Grazing management

1. Types of pastures

The participants were divided into two groups to discuss the types of pastures in their locations and the type of animals that use them. Group I was to identify all types of grasses and the livestock that use them and group II to identify all types of trees and legumes eaten by various animals' species. The participants listed the types of pastures in the local language. This was to show and determine how long each type of pasture lasts and to classify the pastures under short term and long term. The short term pastures lasts up to 3 months and long term pastures lasts between 6 – 12 months. The long term pastures were said to have advantage of regenerating after they have been eaten by animals or cut as fodder for storage. The emphasis was put on the land use committees to plant the grass, the trees and legumes that can regenerate after use.

2. Fodder establishment

Ask the committees think and list the causes of denudation such as:-

- Persistent droughts,
- Cutting of trees,
- Soil erosion by wind or floods,
- Over grazing,
- Cultivation,
- Burning vegetation and
- Salinity.

After identifying the causes of land denudation they were also to list the remedies to the land degradation which were named as:-

- Deferred grazing,
- a forestation,
- agro forestry,
- destocking and improved
- farming technology.

Pastures and grass should not be planted under irrigation and when planted they should plant long term pastures with an ability to regenerate after use.

Demonstration of how to make hay bales

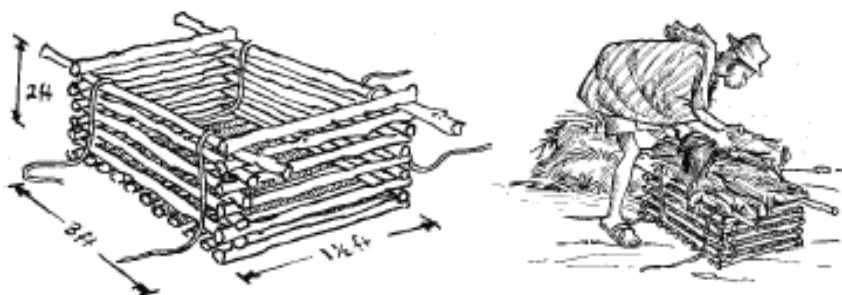
During the wet season, grass growth is rapid and there tends to be surplus fodder for livestock herds. During the dry season, however, grass growth is very slow, and there tends to be a shortage of fodder. The following exercise introduces a way of collecting and packaging grass into hay bales, when fodder is in excess, which can be transported to and stored where it is needed .- and fed to for example milking or sick cows remaining at the homestead. Since grasses and forages in the pasture lose nutritional value during the dry season and become too tough and too fibrous, it is better to cut and store the grass while it is still of high nutritional value.

Materials

Dry grass .- cut 3 days previously and turned once a day, strong sticks, panga, sisal twine.

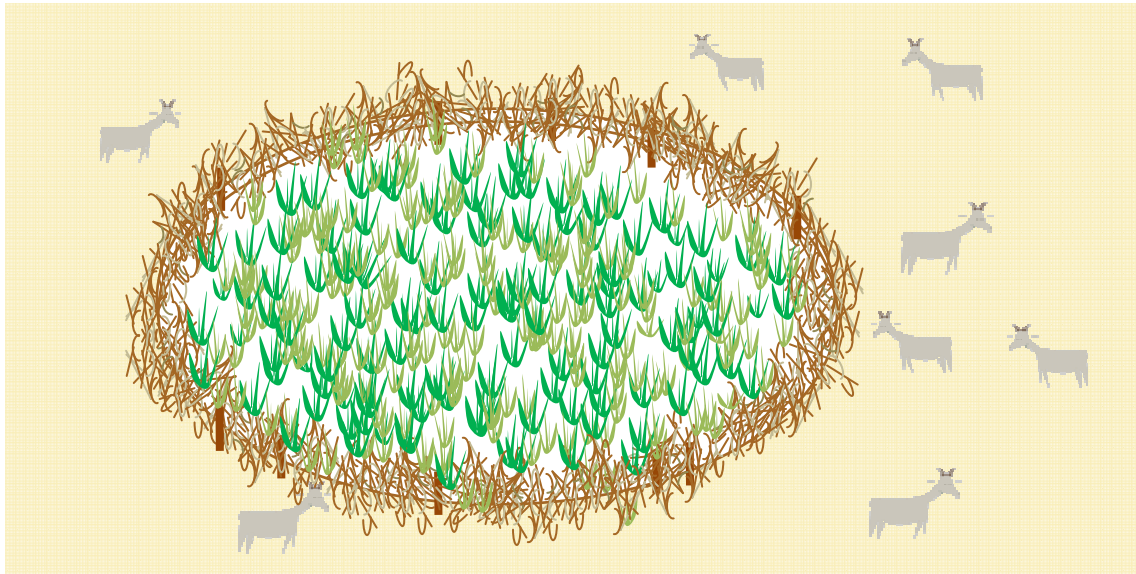
Steps

1. The facilitator explains that this demonstration shows an option for storing hay for use during the dry season: ideally this demonstration should be carried out when the grass is still growing .- the best time to cut grass for hay making is when about 10-20% of the grass heads are flowering.
2. First build the hay box: this can be done with strong sticks .- half of these needs to be about 120 cm long and half about 60 cm long. A frame is built from the sticks which is about 100 cm long by 50 cm wide x 40 cm deep (see illustration below). The sticks are lashed together strongly using the sisal twine. Alternatively, if planks and nails are available, the box can be made from planks. In either case, the top is left open.
3. Once the box is completed, two long lengths of sisal are placed across the bottom of the box and draped over either side. Dry hay is packed firmly into the box. - Standing on top of the hay is a good way to compress it. Once the box is full and the hay well compacted, the two lengths of twine are tied very tightly around the bale. The bale can then be removed from the box using the twine and the next bale made. The rectangular bales are easy to transport and stack. To ensure the hay does not spoil, it should be stored under cover and off the ground: one option is to build a platform from poles and to cover the hay stack with plastic sheeting. - This will protect it from rainwater and termites.
4. When several bales have been made the facilitator leads a discussion: is making hay bales with a hay box a good idea.- what are the advantages and disadvantages of this method; why might the hay made this way be better than standing hay; in which situations would the hay bales be most useful; is it feasible to use this method under local conditions; could some members try the method out and report back to others on their experiences?



Source: Pastoral Field School- Guidelines for facilitation (FAO,2009)

3. Conservation of pasture (reseeding and establishment of pasture reservoir)



Purpose of the grazing reservoir

- To save livestock left at the settlement for milking and domestic use (it may not be practical to prepare enough pasture for migrating animals for drought season)
- To save human beings by feeding with the milk from the livestock left at the settlement
- Income generation (need to find out the market potential)

Reviving grazing area (land rehabilitation and pasture re-seeding)

- Land rehabilitation: removing prosopis and replacing with other pasture or crops
- Pasture re-seeding: sowing seeds of pasture in a guarded plots

Methods and necessary preparation for reseeding

Steps

5. Site Selection

The topography of the land, such as terraces or sloped and shallow areas and soil water holding capacity, greatly affects the success of seeding by limiting equipment access, and the application of amendments. Soil characteristics often differ with the contour of the land, greatly affecting the growth habits of the plant species in the pasture. In arid land, it is important to select a area where water flows in during rainy season.

After selection of the site, it is recommended to prepare land by plowing as much as possible.

6. Choosing the types of grasses

The most productive grasses in the semi arid rangelands include *Cenchrus ciliaris*, *Chloris roxburghiana*, *Entropogom macrostachyus*, *Eragrostis superba*. These grasses are known to have good grazing value and persistence. They are also easy to establish, drought tolerant and able to survive and perpetuate itself, (iii) Provide good quality herbage, and (iv) Able to produce an adequate amount of viable seed which can be easily harvested.

7. Establishing fence for the site

Mobilize the community to establish fence surrounding the reseeding site. The fence can be made with the locally available materials to meet the purpose of avoiding animals to enter.

8. Timing of seeding

Time your seeding according to the expected rain so that soil moisture is available

9. Management During Establishment

A strong root system must be established prior to grazing. The roots systems in perennial forages are where food reserves are stored. If the roots are not strong enough, then there are not enough reserves for the plant to survive winter. Therefore, animals should only be allowed to graze on well established plants.

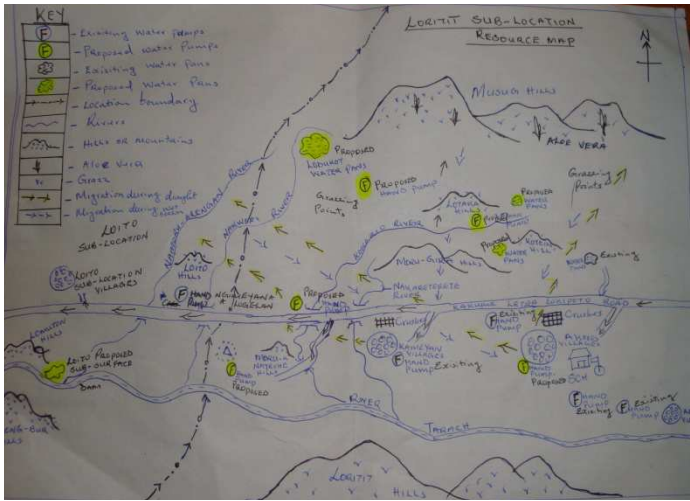
- Never graze new stands during wet periods, especially on tilled seedbeds.
- Test for root development by grasping a handful of desired plant material and tugging on it. If it is easily uprooted, then the root system is not sufficient established and another cycle of mowing and regrowth should be allowed.
- Do not graze plants lower than 3-4 inches.
- Graze only when soil surface is firm and dry.
- After grazing, pastures should rest for a certain period

Source: 'Guidelines for reseeding pasture', UMass Extension

(<http://extension.umass.edu/cdle/sites/extension.umass.edu.cdle/files/fact-sheets/pdf/GuidelinesforReseedingPastures09-49.pdf>)

4. Grazing management

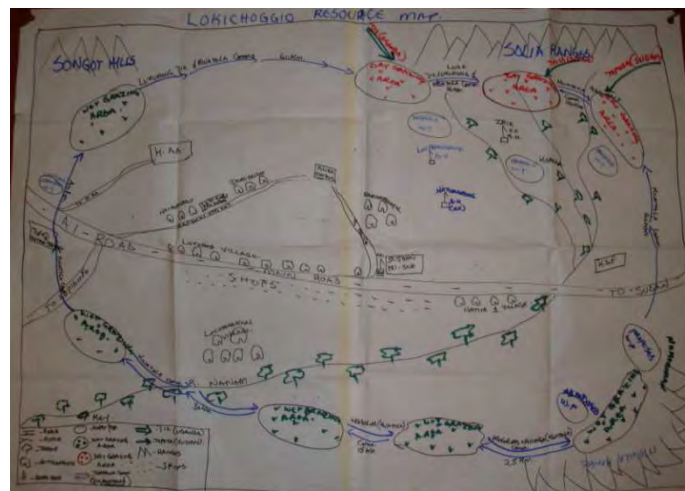
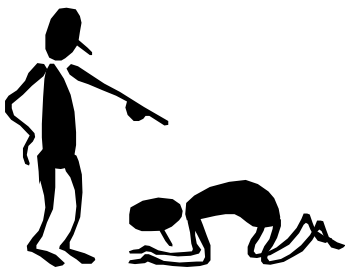
Establishment of management system of the grazing area



- Making rules in grazing area (review of existing grazing plan if any)
- Who to make rules and who will manage
- Regulation on the management (rules on violation, fine, (authorization of the committee on fining system), etc)

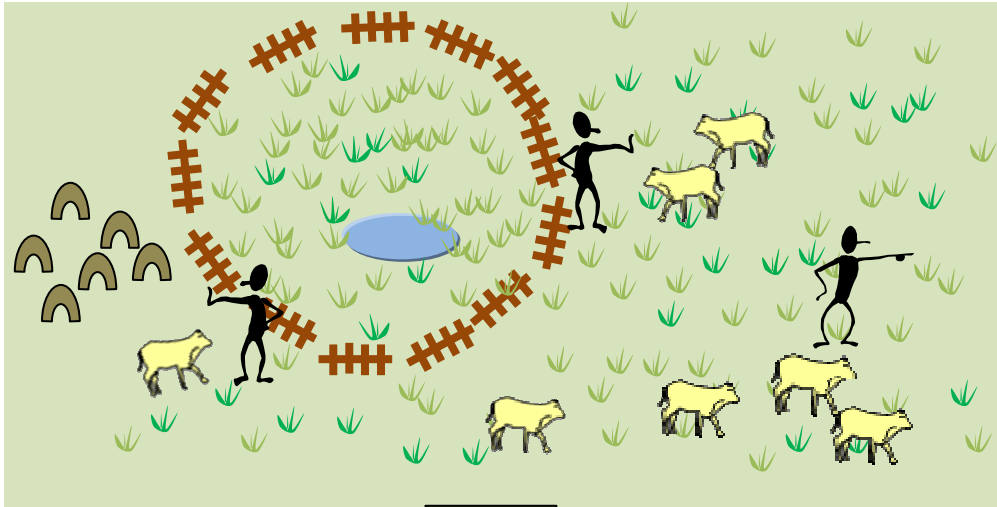
Example of rules;

- Any herders cannot graze within 5km from the water source during wet season
- Committee shall organise a meeting with the community to decide the range of preserved area at the start of wet season depending on the situation of rain
- The committee members in charge will open the preserved land on the date agreed with the community
- The committee members in charge shall inform the rule of the concerned water source to the neighbouring community to avoid conflict
- Appointed persons in charge can fine if the herders violate the rules

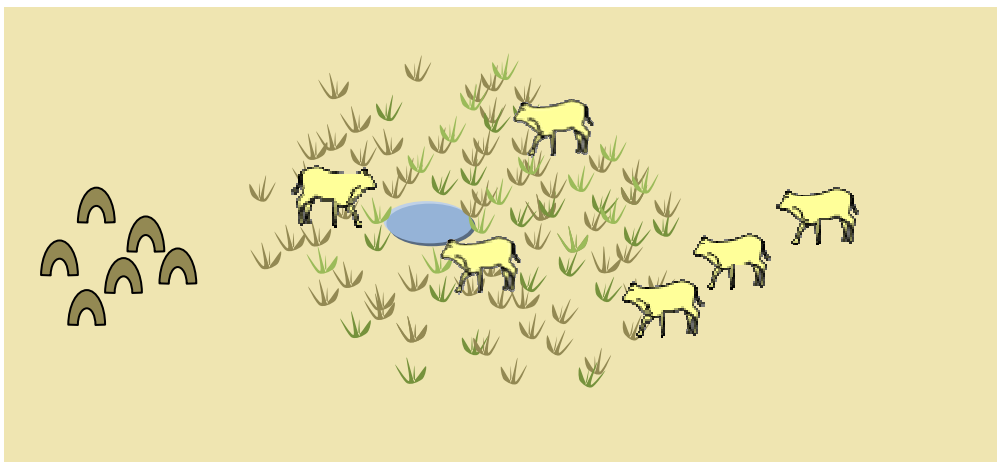


With range land management

During wet season

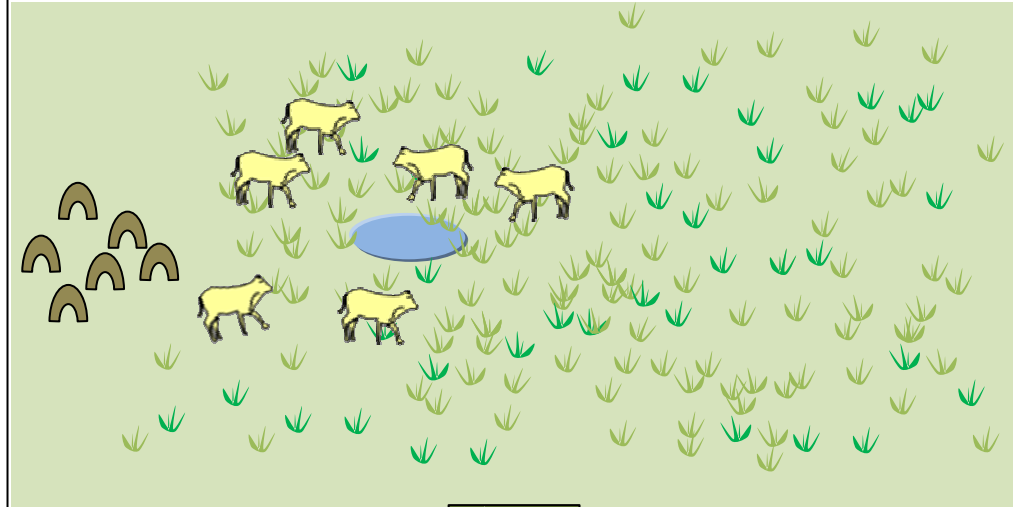


During dry season

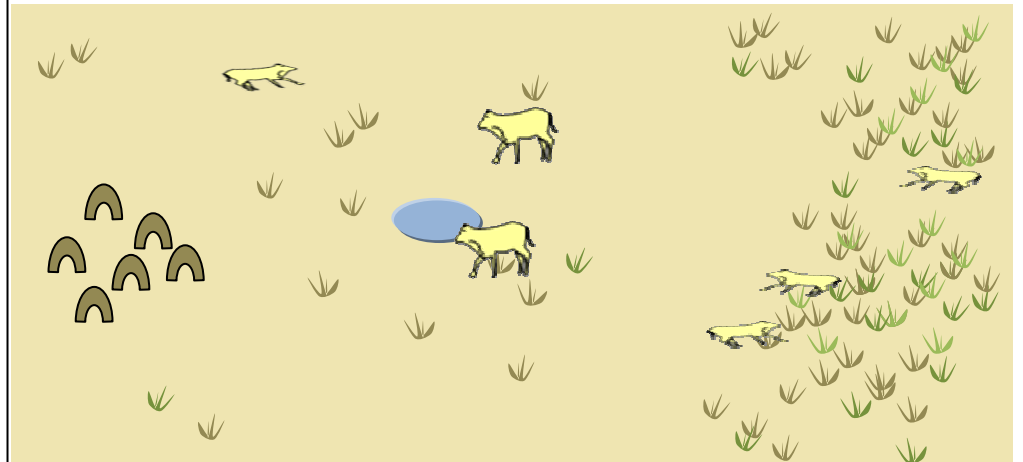


Without range land management

During Wet season



During dry season




~~~~~ Session 3. ~~~~~

*Action plan making and demonstration of the way forwards*

**Objectives**

- To equip the committee members with skills to share with the community through demonstration
- To make feasible practical plan of the committee on way forward after the training to take actual action in their community
- To encourage the committee to play their expected role discussed in the training sessions

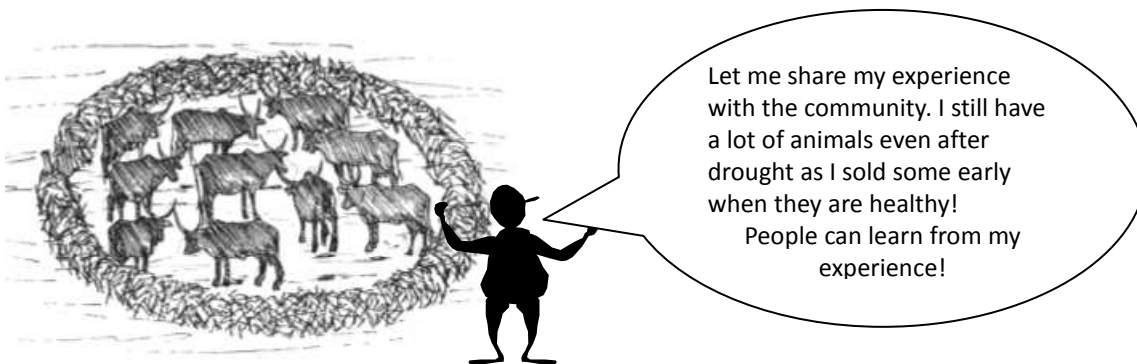
1. Review of Roles and responsibility of the Committee members  
Open discussion to review their roles as per discussed throughout the training.
2. Demonstration of presentation/training to the community
  - Divide the participants into 3 groups.
  - Assign a topic covered in the training session to each group.
  - Discuss in the groups how they can explain the assigned topics to the community to help community to change their behaviour and take action.
  - Let each group to present demonstrating as if they are in the community baraza or in a gathering with the community (the group play as a committee and other participants play as a community audience)

Topics for each group

Group 1. : EWS and actions to be taken by the community in each stage

Group 2. : Promoting early animal off-take to mitigate impacts of the drought

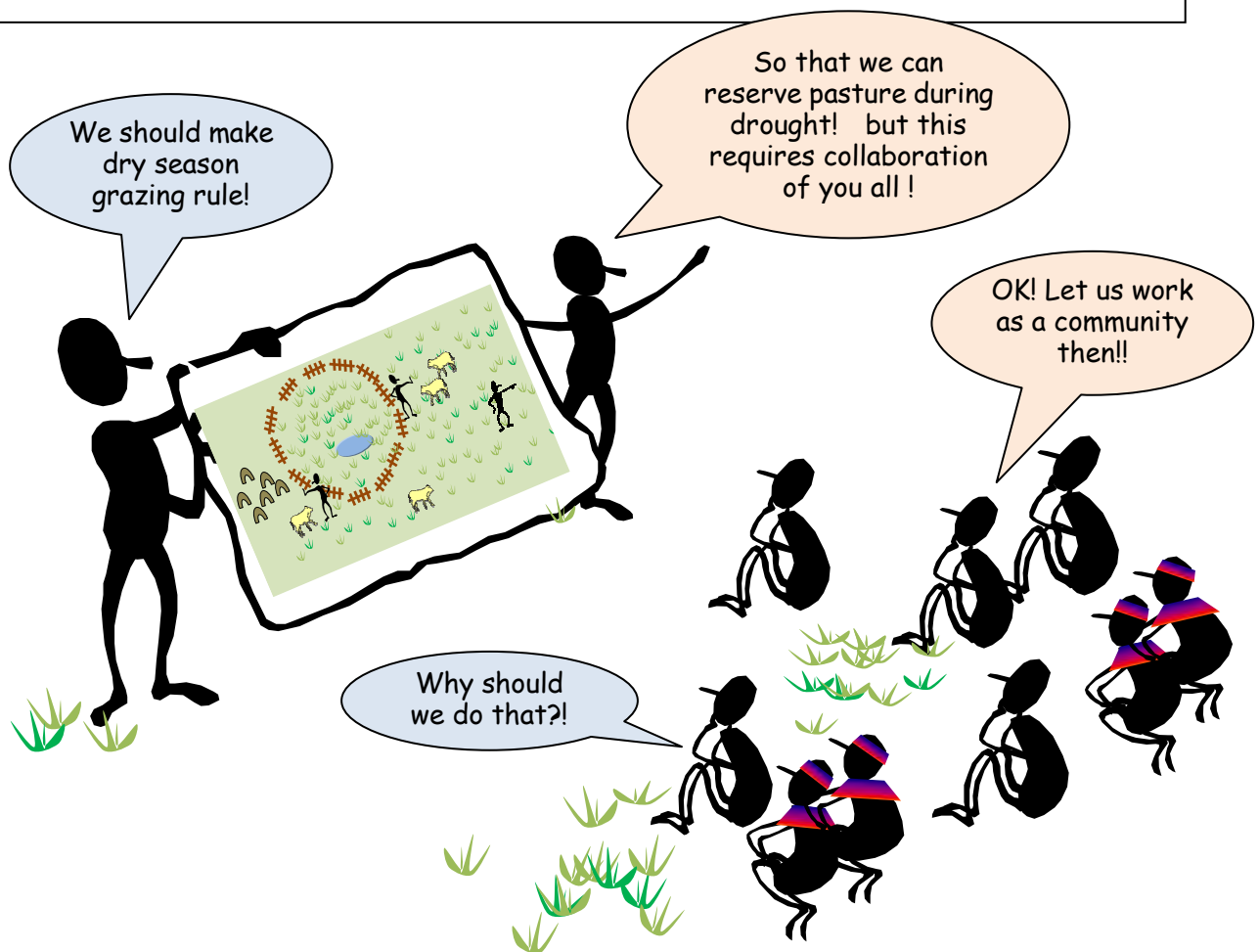
Group 3. : To propose rangeland management system or reseedling (establishment of pasture reservoir) as a community project.





### Tips for the group work

- Think of the objective
  - ✧ Consider their role of teaching and motivating the community to take action by themselves.
  - ✧ Do not just preach, but communicate with people to make people feel like trying what you teach!!
- Issues to be covered
  - ✧ To achieve their objective of encouraging people to take action, what kind of information is necessary to be conveyed?
- How to approach and communicate
  - ✧ Some topics are not familiar to the majority of the community. How can we make them understood? Talk within their social-cultural norm
  - ✧ Use visual explanation to help understanding of the people
- 



## ACTION PLAN ON;

- DC function
- Awareness raising on EWS
- Plan of collective action to enhance preparedness

Example;

| Activity                          | When      | How to do / procedures                                                                                         | Necessary preparation                                                                      | Responsible person                                | Expected Outcome                                                   |
|-----------------------------------|-----------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------|
| Education of the community on EWS | Mid Dec   | The Chief call baraza and the committee member will present EWS and necessary action to be taken               | Review of EWS, prepare what to teach, division of work among the committee members         | Chief, Chairman of DC/CDC                         | The community to understand importance of early action             |
| Range land management             | Next week | Appoint persons in charge to oversee the range land and chase herders away from the prohibited area            | Make rules on range land having a committee meeting and share the rules with the community | The committee and the persons appointed           | To agree on rangeland to graze and rules including penalty         |
| Livestock off take                | Early Jan | The committee members to seek for the suitable market for livestock and start off take during early dry season | Organise baraza to inform importance of early livestock off take and appropriate timing    | The sub-committee in charge of livestock off take | The committee practice the off-take and people realise the benefit |
|                                   |           |                                                                                                                |                                                                                            |                                                   |                                                                    |
|                                   |           |                                                                                                                |                                                                                            |                                                   |                                                                    |

# *Attachment B4-2*

*Results of the Questionnaire Interview  
Survey on Community Drought Resilience  
through DMC*

## Quantitative Data of Results of the Questionnaire Interview Survey on Community Drought Resilience through DMC/CDC.

### 1. Introduction

Three open-ended questionnaires were used for the interview survey for three different target populations, namely general community, the DMC committee members, and key informants. The selection criteria is as shown in below table;

*Table 1.1 Outline of study sampling*

| Target group         | Sample population (Inclusion /exclusion criteria)                                                                                                                                                                                                                                                                                                                                      | Sample size:          |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <u>Committee</u>     | DMC committee members of the target sub-location                                                                                                                                                                                                                                                                                                                                       | 5~6 per sub-location  |
| <u>Community</u>     | Community members of the target sub-location in consideration of <ul style="list-style-type: none"> <li>- Geographical balance (balance among the consisting villages)</li> <li>- Gender balance</li> <li>- Balance in economic status</li> <li>- Balance in settlement status</li> </ul> Exclusion criteria <ul style="list-style-type: none"> <li>- DMC committee members</li> </ul> | 10~12per sub-location |
| <u>Key informant</u> | Community leaders who knows general information of the community                                                                                                                                                                                                                                                                                                                       | 2 per sub-location    |

Source: JICA Project Team

With simple random sampling, the following samples participated in the survey.

*Table 1.2 Study sample for community resilience assessment*

|              | Lokichoggio | Loritit | Milimatatu | Kangakipur | Lokiriama | Loengikipi | Eliye | Kerio | Lchuwaa | Lokichar |
|--------------|-------------|---------|------------|------------|-----------|------------|-------|-------|---------|----------|
| Community    | 10          | 10      | 8          | 10         | 12        | 12         | 11    | 12    | 12      | 12       |
| DMC          | 5           | 3       | 4          | 4          | 5         | 5          | 4     | 5     | 5       | 3        |
| Keyinformant | 2           | 2       | 2          | 2          | 2         | 2          | 2     | 2     | 2       | 2        |

Source: JICA Project Team

The quantitative results of the questionnaire interview survey were drawn from the answers of open-ended questions in the questionnaire interview to the general community and the DMC/CDC committee members. The answers were coded for summary counting. Original answers were used for qualitative analysis of the result.

Percentage stacked bar charts show the percentage of the respondents with single answer, while the aggregate bar charts count multiple answers from single respondents.

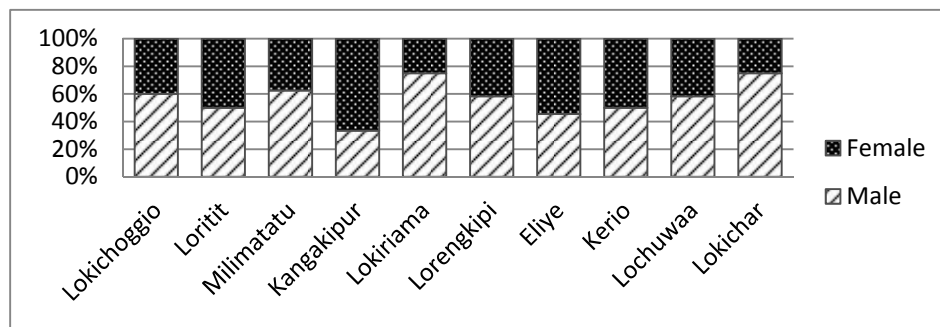
This report is preliminary analysis of raw data from the survey, which will be assessed further to draw lessons of the project. The following explains quantitative aggregate analysis of the survey drawn from a part of the survey. Further quantitative analysis with background information and other influencing factors shall be carried out and compiled in a separate report.

## 2. Result from the Questionnaire interview to general community members

### 2-1. Details of Sample

Details of the respondents in each sub-location is show in each graph

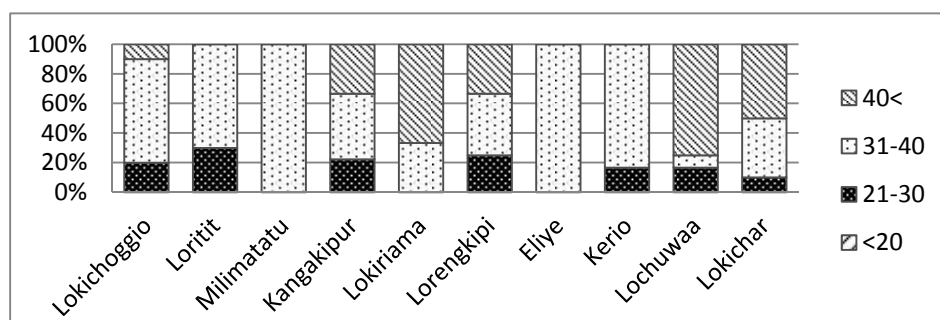
#### 2-1-1. Sex of the respondents



Source: JICA Project Team

Figure 2.1. Sex of respondents

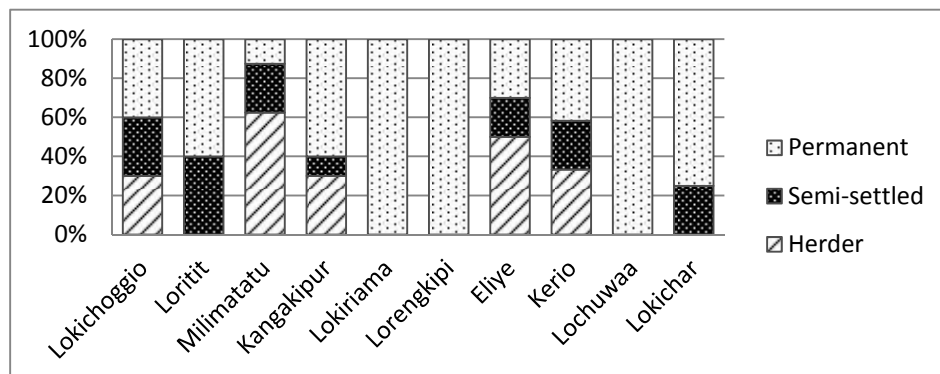
#### 2-1-2. Age of respondents



Source: JICA Project Team

Figure 2.2. Age of respondents

#### 2-1-3. Residential status of respondents



Source: JICA Project Team

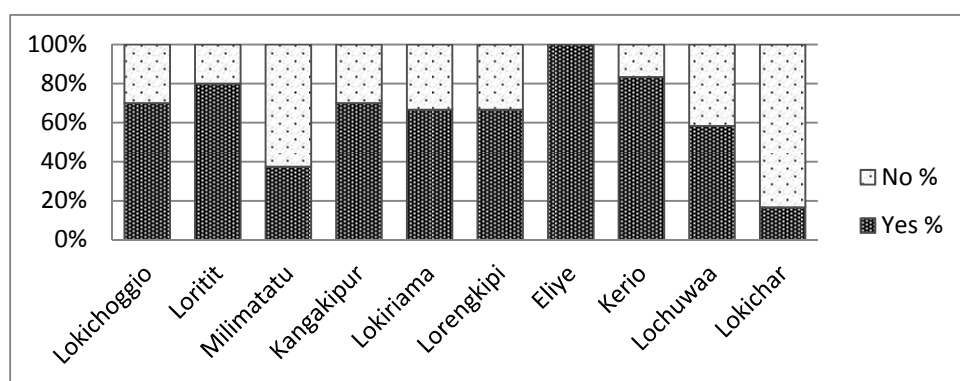
Figure 2.3. Residential status of respondents

## 2-2. Drought mitigation measure and preparedness

Activities taken by people for mitigation and preparation for drought impacts were studied. The impact of the project was judged by specifying the change through the project intervention

### 2-2-1. Income sources of people

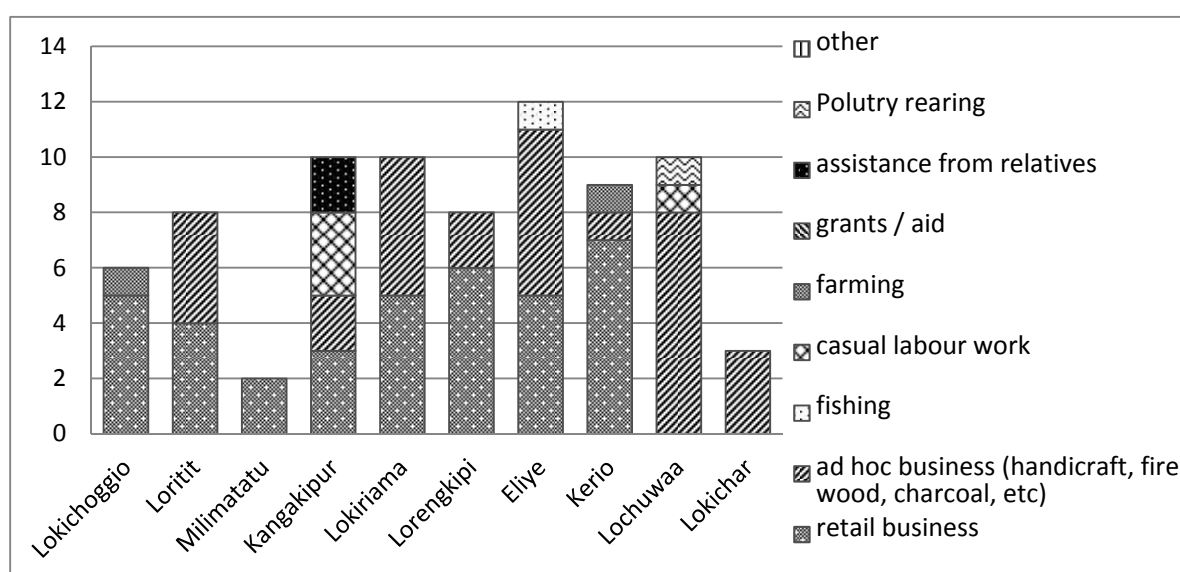
Availability of income source other than livestock rearing is one of the important factors in mitigating drought impact. Comparison of the availability of income source shall be used to assess drought resilience.



Source: JICA Project Team

**Figure 2.4. Availability of income sources other than livestock**

Since the most of the income source people have in the area is petty cash business or ad-hoc sales of natural resources, it seems that availability of income sources does not depends of the development of town.

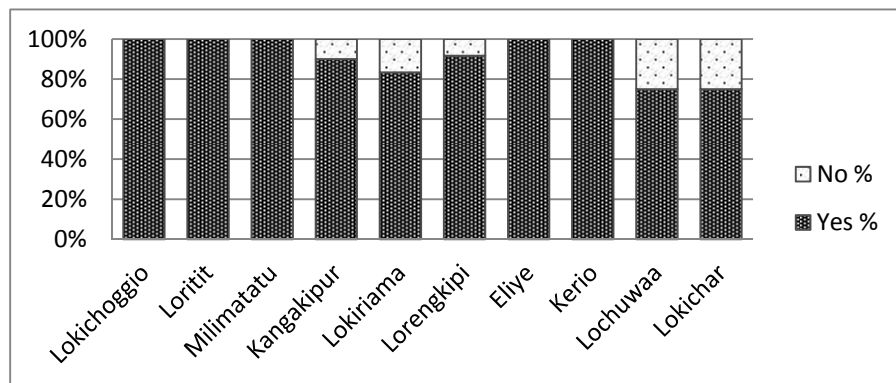


Source: JICA Project Team

**Figure 2.5. Income sources people have apart from livestock**

Apart from the places where a specific natural resource is available for income generation such as fishing in Lake Turukana and basket making at Eliye, most of the petty cash incomes are generated from informal individual sales of food and non-food items as well as collection and sales of firewood and charcoals.

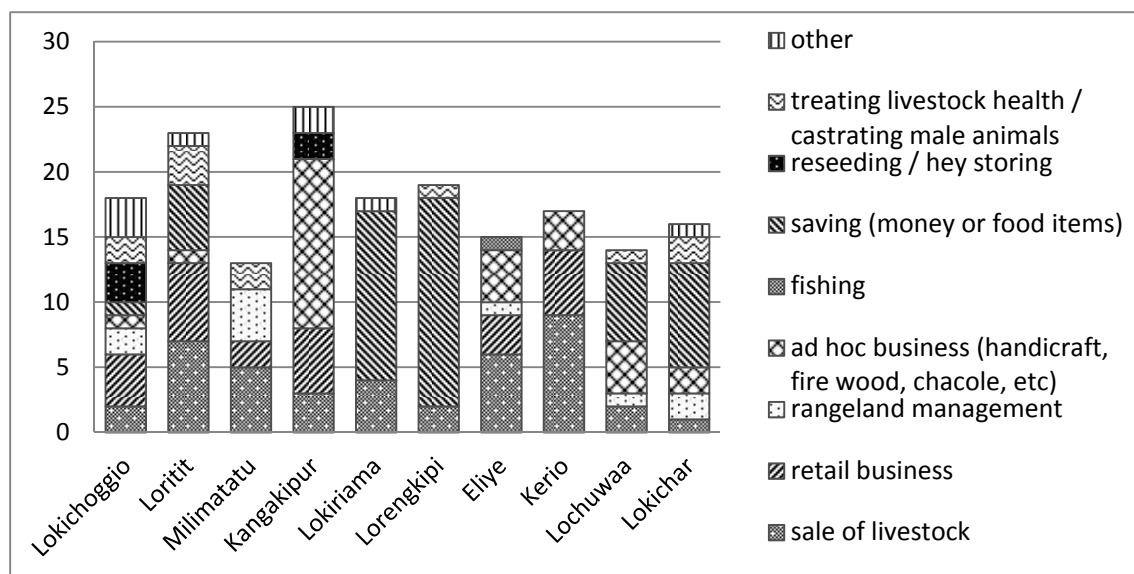
**2-2-2. Individual activities for drought mitigation**



Source: JICA Project Team

**Figure 2.6. Practice of activities for drought preparedness**

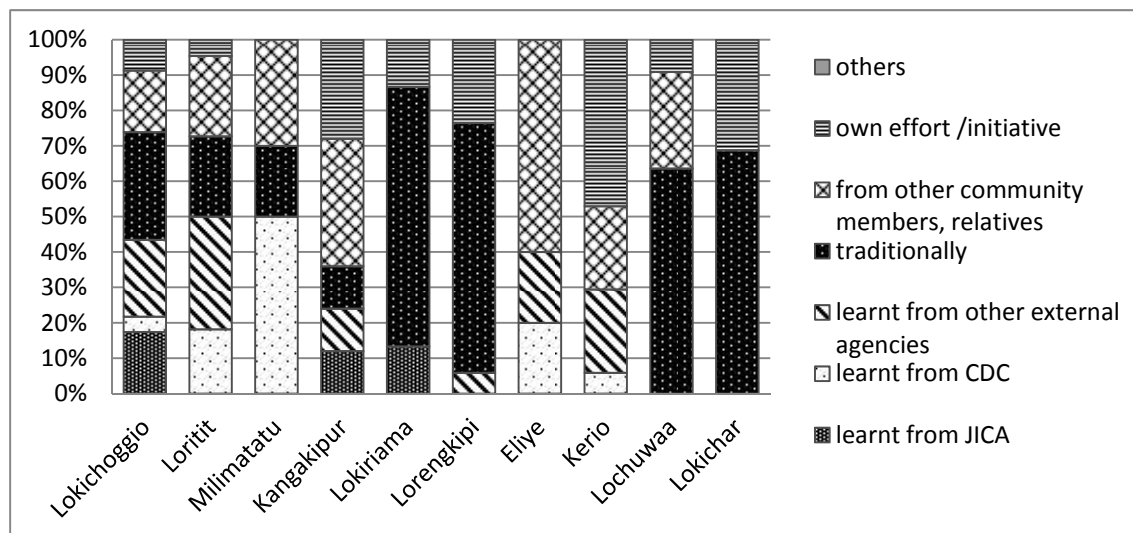
Majority of people have means of drought mitigation mainly with the activities they have been conducting traditionally.



Source: JICA Project Team

**Figure 2.7. Individual activities for drought preparedness**

Many people practice more than one activity. Apart from traditional measure of drought preparedness, a remarkable number of people responded that they practice saving in terms of cash or food items. Ad-hoc businesses are taken as drought mitigation measure by some people but not by other people

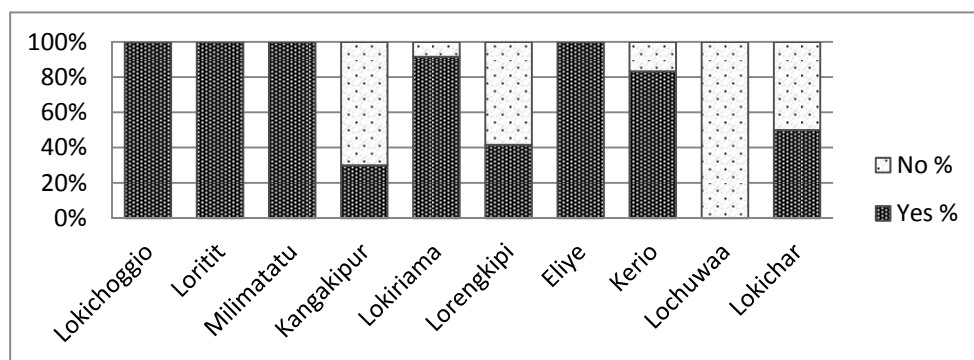


Source: JICA Project Team

**Figure 2.8. Initiative for the individual drought preparedness**

Traditional practice and their own initiative prevail in some area while learning from external project remains low. Most of the learning from DMC/CDC are awareness gathering organised by the DMC/CDC after their training on drought Early Warning System (EWS), rangeland management and early animal off-take

**2-2-3. Communal activities for drought mitigation**

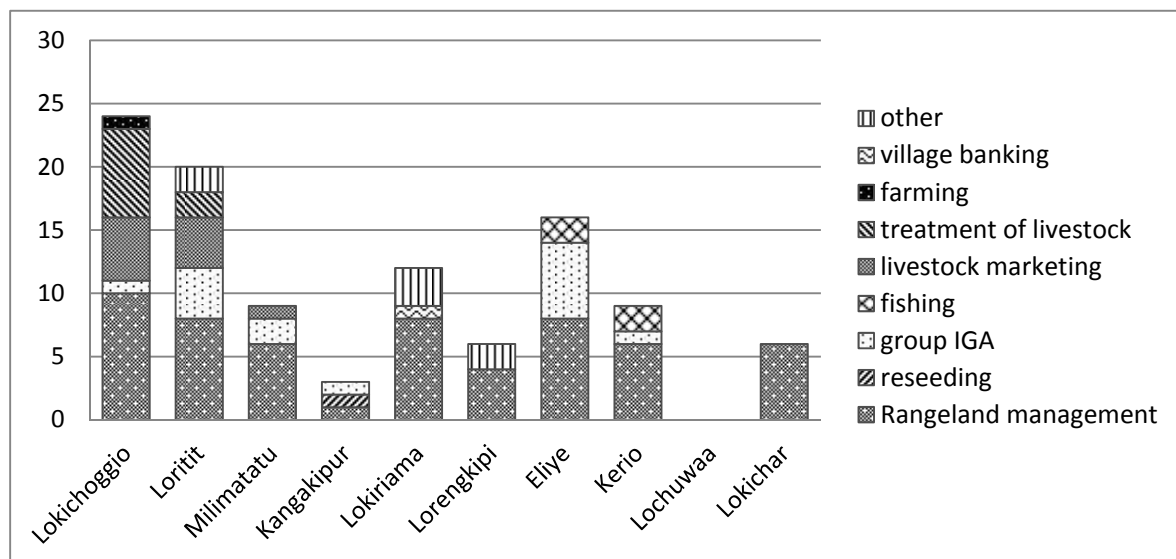


Source: JICA Project Team

**Figure 2.9. Practice of communal activities for drought preparedness**

Remarkable result is the no activities conducted as community in Lochuwaa, which can be judged as effect of people’s attitude that has been observed during project implementation. People in Lochuwaa has been showing negative attitude towards external project and it has been heard that people are not willing to cooperate. This can be the reason of lack of communal activities in Lochuwaa. Further analysis shall be necessary to assess the situation.

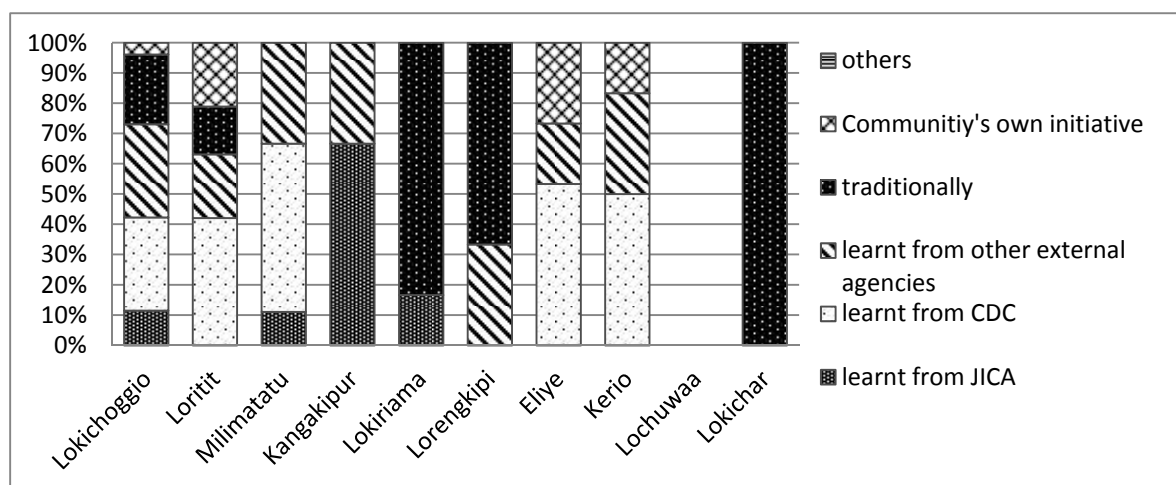




Source: JICA Project Team

**Figure 2.10. Communal activities for drought preparedness**

The most prevailing measure of drought mitigation as a community is rangeland management. Many of the respondents mentioned rangeland management has been practiced traditionally in some areas and strengthened by the ECoRAD project. Communal activities for drought preparedness are much less compared to individual activities. This shall be further analysed with the cultural and social background in the area to assess potential of the community resilience.



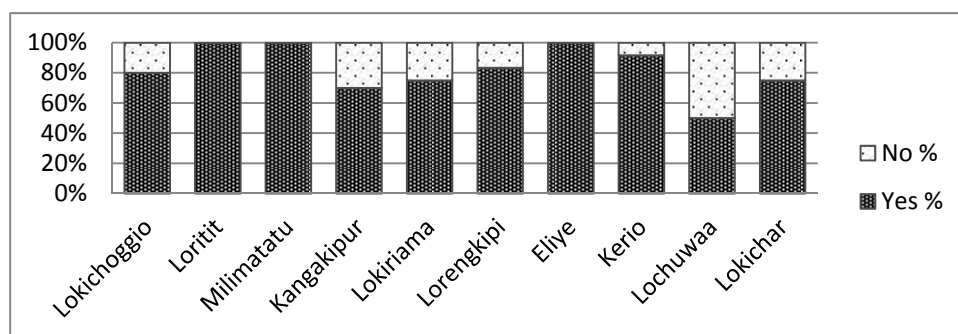
Source: JICA Project Team

**Figure 2.11. Initiative of the communal activities for drought preparedness**

A good number of people answered they practice learning from the DMC/CDC after they received training from the project. This answer would have been affected by the recognition of DMC/CDC by the community.

## 2-3. Functions of DMC/CDC

### 2-3-1. Awareness on DMC/CDC

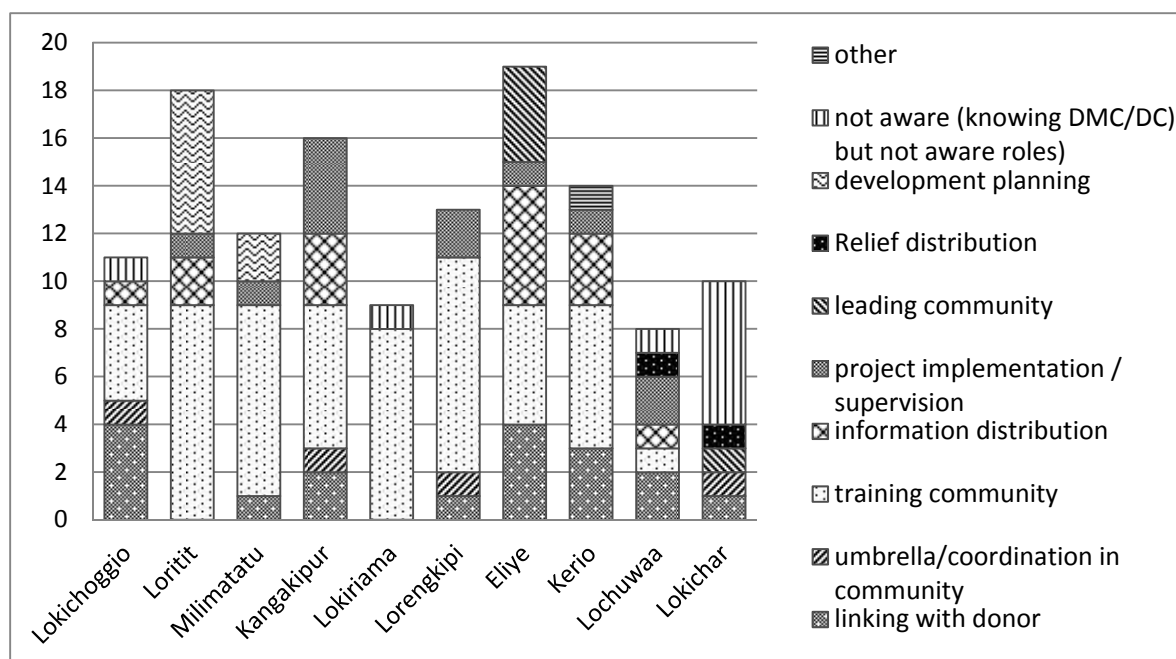


Source: JICA Project Team

**Figure 2.12. Awareness on DMC/CDC by the community**

Majority of the respondents are aware of at least existence of the DMC/CDC in their area. This must be highly due to the awareness meetings conducted by the DMC/CDC mentioned in the following data. It shall be also contributed by the existence of visible activities led or supervised by the DMC/CDC.

### 2-3-2. Roles and functions of DMC/CDC



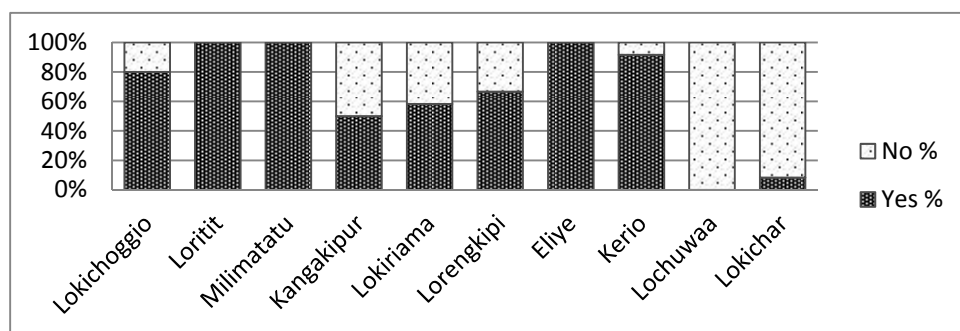
Source: JICA Project Team

**Figure 2.13. Recognised roles and function of DMC/CDC by the community**

Most of the respondents who are aware of the existence of the DMC/CDC somehow understand the expected roles and functions of the DMC/CDC. With multiple answer response, a significant number of respondents recognise that training community and information sharing are the major roles of the DMC/CDC. This should be resulted from the

encouragement of DMC/CDC by the project to organise awareness gathering to share about information on drought mitigation and preparedness after the training for DMC/CDC. Understanding on the roles of umbrella organization and linking with donor agencies highly depends on the availability and existence of related activities and fund during the concerned period.

**2-3-3. Attendance to the meetings conducted by the DMC/CDC**

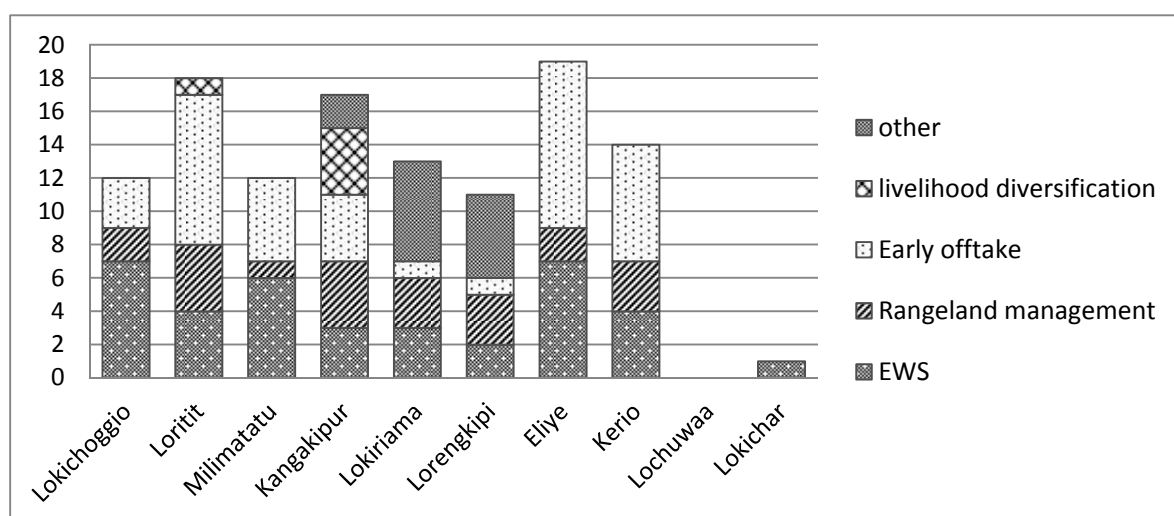


Source: JICA Project Team

**Figure 2.14. Attendance to the meetings organised by the DMC/CDC**

Significant difference in participation to the meeting organised by the DMC/CDC among target sub-locations. The rate of attendance does not correlate with the number of meetings organised by the DMC. In the case of Milimatatu, where the meeting was organised only once, there is a possibility that people attended the meeting in Kangakipur that is only about 10 km away from Milimatatu, where there were several meetings were conducted. Much lower participation in Lochuwaa can be due to resistance and reluctant feature of the community in the area as mentioned above.

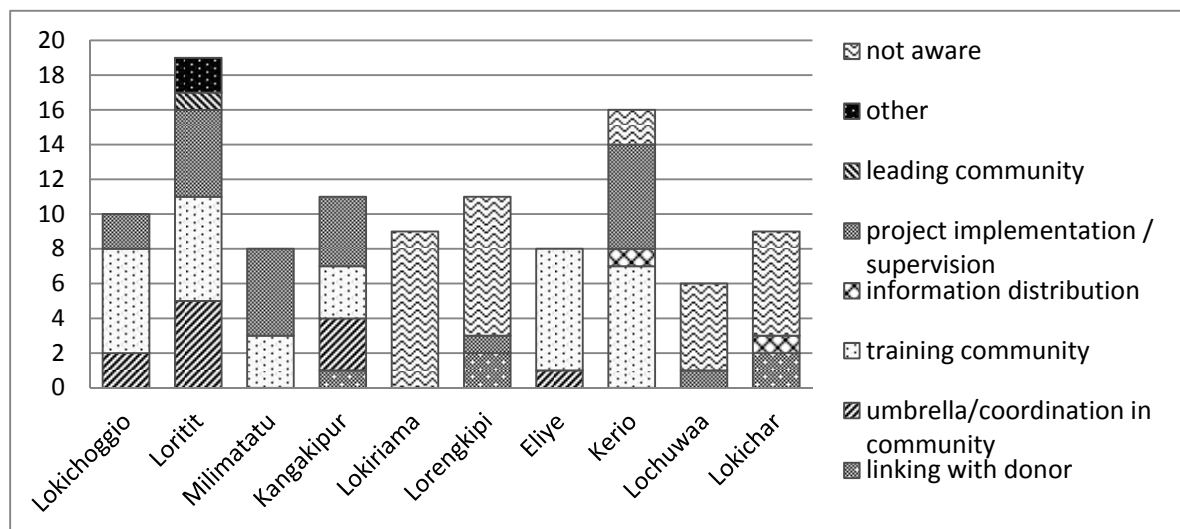
**2-3-4. Issues learnt in the meeting by the DMC**



Source: JICA Project Team

**Figure 2.15. Issues learnt in the meeting by DMC/CDC**

### 2-3-5. Activities led by the DMC



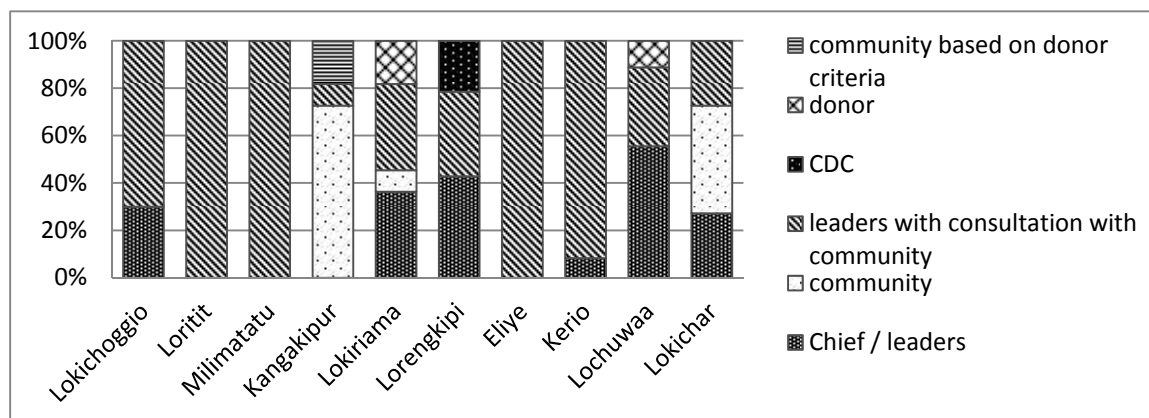
Source: JICA Project Team

Figure 2.16. Recognised activities led by the DMC/CDC

Among those who know about the DMC/CDC itself, many answered they do not know actual activities taken by the DMC/CDC. The disparity is observed mainly due to existence of the physical activities or project in the area. Where there are visible project such as water resource development or other infrastructure improvement, people have observed DMC/CDC took supervising role in the project implementation. Training of the community is also recognised as the activities of the DMC/CDC mostly in the place where people participated in the sensitization meetings organised by the DMC/CDC. Execution of the role of entry point for external agencies highly depends on the existence of other external support.

### 2-4. External support

#### 2-4-1. Distribution of development activities

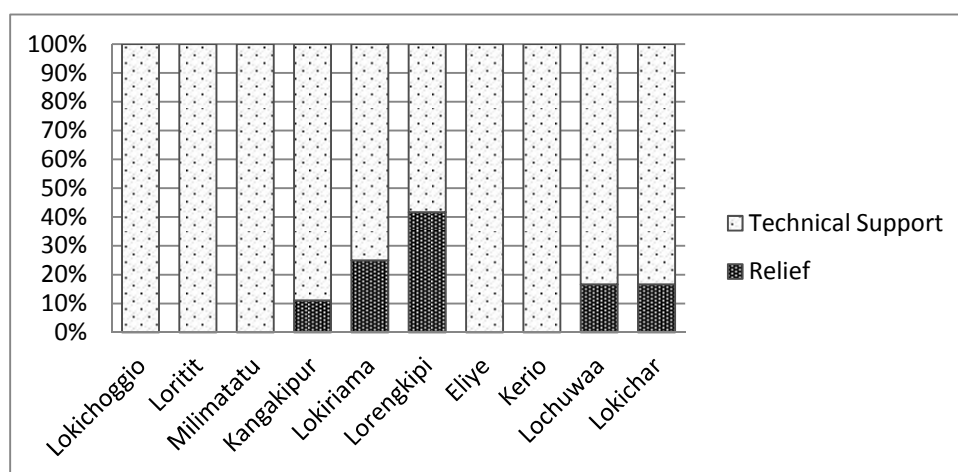


Source: JICA Project Team

Figure 2.17. Decision making on allocation of external support

This result shows that people recognise that decisions are mostly made through consultation with the community. Role of the DMC/CDC in decision making is limited to mobilisation and facilitation. In the place where chiefs and local leader are influential, people feel decisions are made by a limited number of leaders without consultation of the community. Actual situation shall be further assessed as the answer can be biased with respondent bias of faking good due to several trainings and awareness introduced by the external agencies.

#### 2-4-2. Preference on types of external support



Source: JICA Project Team

**Figure 2.18. Preference in types of external support**

The result says that majority of people understand in logical that technical support is more important than relief as the knowledge and skills can be applied for future development activities. Considering the situation observed during project implementation that there are still a number of people ask for donation and short-term benefit during implementation of the project, it can be said that people understand importance of technical assistance while their attitude remain demanding immediate temporary benefit.

### 3. Result from the Questionnaire interview to DMC/CDC committee members

The following results are drawn either as aggregate analysis or by compiling and summarizing the answers by the committee members who participated in the interview and answered individually.

#### 3-1. Progress and Achievement of DMC

##### 3-1-1. Progress and achievement in the CAP

The following table shows the achievement in implementation of the Community Action Plan (CAP) prepared through CMDRR workshop conducted at the beginning of the project. The CAPs were prepared separately for activities that require external support and those to be implemented without external support. Listed activities are based on the actual performance mentioned in the interview, some of which was not in the original plan.

*Table 3.1. Progress and achievement in implementation of CAPs*

| Sub-Location | Activities in CAP implemented through ECoRAD                                                                                                   | Activities in CAP implemented through other external support                                                                                  | Activities in CAP implemented by the community's own effort                                                                                                                                                                                                                                                                                             |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lokichoggio  | Through the action plan two boreholes have been drilled in Natwol and Nakeruman. Two water pans have been rehabilitated in Nanaam and Mogilla. | Lokado has constructed one water pan near Kibes. Cepsa has drilled two boreholes in Nasinyana and Mogilla.                                    | Reseeding of Naroot farm, rangeland management, and formation of rangeland management committee were implemented through linking community with ministry of agriculture and community mobilization. Formation of water management committee in every site where boreholes have been drilled. Strengthening of LMA to get market access and information. |
| Loritit      | Borehole drilled at Kokorio                                                                                                                    | OXFAM funding to aloe vera group for aloe vera project. ECD classroom construction by CDF. School construction at Akoros by county government | Formation of rangeland committee and reseeded of the farm at AKOROS, Commercial sell of Livestock and community capacity development through CDC training                                                                                                                                                                                               |
| Mlima Tatu   | 1 borehole drilled at Lokwakel, 2 water pans rehabilitated at Kasuguru and Kabilikeret                                                         | 1 ECD classroom and Dining hall built by constituency fund                                                                                    | Strengthening of community organizations through trainings on drought mitigating measures and formation of water management committee at Kabilikeret, Lokwakel and Kasuguru                                                                                                                                                                             |
| Kangakipur   | Technology transfer to the community through trainings. Sand dam                                                                               | Water kiosks by oxfam, ECD classroom- CDF, HSNP programme by DFID                                                                             | Reseeding farms with technical support by JICA. LMA sale yard. Land demarcation.                                                                                                                                                                                                                                                                        |
| Lokiriama    | A borehole at Kakromosing                                                                                                                      | None                                                                                                                                          | Mobile schools at Lochor alomala and Atalokamusie. Afforestation, planting of Aloe vera                                                                                                                                                                                                                                                                 |

|                    |                                                                              |                                                                                                                                                                                                                              |                                                                                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lorengkippi        | Drilling two boreholes at Lokiriemet and Kalokutany and water pan at Kaalale | ACTED ECHO LANINA 3 project- restocking. Cattle dip by Diocese of Lodwar. Construction of drug store by Diocese of Lodwar. Pit latrines by Practical Action and Renovation of clinic by save the children, Water Pan by KFDA | Rangeland management as initiated by DMC<br>Merry go round - some women within the community started cash merry go round and other interested members joined in.                                   |
| Eliye              | None                                                                         | Beach Management Unit (BMU) by USADF, Water tank by world vision, secondary school by CDF, Safaricom mobile phone network by Safaricom                                                                                       | Rangeland management that was implemented after training of the CDC by JICA through consultation with the chief and council of elders.<br>Training of the community on drought mitigation measures |
| Kerio              | Borehole drilling at Losagam and upgrading of the sale yard                  | BMU by USADF, bridge construction by county government, group fund by ADESO,                                                                                                                                                 | Formation of rangeland committee and further training on drought mitigating activities to the community by CDC                                                                                     |
| Lochwaangi kamatak | Drilling two boreholes at Lolupe and Nakejuamosing                           | Installations of solar power system and pumps, construction of water kiosks at the centre and near KAG church and establishment of drug store, all by VSF organization.                                                      | Tree planting, they volunteered to buy seedlings on their own and plant. Quarrying, merry go round (cash). Implementation of rangeland management after community training by DMC                  |
| LOKICHAR           | Two boreholes , Kakali and Lochoredome                                       | Establishment of dispensary                                                                                                                                                                                                  | Selling hides and skin, Poultry rearing, burning and selling bricks, marry go round (revolving cash)                                                                                               |

Source: JICA Project Team

### 3-1-2. Achievement of DMC in its roles

The following table summarizes the answers from the DMC committee members in how much they have achieved in executing their role as DMC, focusing on the role as an umbrella organization and linking with external agencies to coordinate development activities.

**Table 3.2 Achievement of DMC in its roles**

| Sub-Location | Achievement of DMC/DC in their role of umbrella organisation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Achievement of DMC/DC in their role of entry point of development activities / external support                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lokichoggio  | The CDC has coordinated with other group like WUA, to ensure that water accessibility to two boreholes is free to all community member. Rangeland management committee has also been strengthened by the CDC through coordination to ensure that land is apportioned to be used during drought. The CDC also coordinates with LMA (Livestock Marketing Authority) on ensuring that market information reaches them. They also work with farmers group supported by Food for Asset programme (TRP) to ensure there is timely planting of farms | The CDC has linked the community farmers with Turkana Rehabilitation Project (TRP) on food for asset programme to ensure farmer are give timely information on long rains and short rains for preparedness. The CDC has also linked the community to VSF-Belgium on issues pertaining health of livestock (giving drugs, vaccination and treatment). It also linked the community with Local NGOs (LOKADO, LOPEO) on peace dialogue, and with LEDO which deals with sensitizing community on hygiene and sanitation. |

|                    |                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                   |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Loritit            | The CDC has coordinated with rangeland management committee to ensure that pasture land has been demarcated and the farm at Akorot has been reseeded.                                                                                                                                     | LWF has also come through CDC to start implementing VICOBA at Akoros                                                                                                                                                                                                                              |
| Mlima Tatu         | The CDC has coordinated in construction of drift, drilling of borehole at Lokwakel and rehabilitation of borehole kasuguru and kabilikeret, it has also coordinated in formation of rangeland management and water management committee                                                   | Only JICA support was implemented through CDC                                                                                                                                                                                                                                                     |
| Kangakipur         | The CDC linked the community with other groups such as LMA                                                                                                                                                                                                                                | The CDC coordinated the community with HSNP Programs, World Vision (General food distribution). Linking the community with Helpage International in targeting the elderly. They also link the Save the children, Oxfam by mobilization and sensitization.                                         |
| Lokiriama          | The CDC assisted VIKOBA group in planning and construction of a Guest house at Lokiriama centre.<br>It also conducted trainings on peace combined with Lokiriama Peace Women group at Moroto and Urum.                                                                                    | The CDC wrote a proposal to VSF-Belgium which led to the provision of capital to community members.                                                                                                                                                                                               |
| Lorengkippi        | The CDC organized a training in collaboration with water users association on how to dig hand dug wells.<br>The CDC also works as the oversight on how the Lorengkippi water users manage their finances<br>Worked with livestock traders to sensitize the community on livestock trading | ACTED entered the community through the DMC and they identified the beneficiaries of the donations to purchase goats for them and also did tendering for the contractors for implementation of the project.<br>It worked with Diocese of Lodwar for the distribution of livestock drugs programme |
| Eliye              | The CDC coordinated with elders and rangeland management committee to demarcate pasture land.<br>The CDC trained community on EWS and early livestock off-take                                                                                                                            | The CDC has acted a role of an entry point by introducing Adeso, and FAO.<br>They also liaised with Adeso to bring 280,000/= to pastoral community                                                                                                                                                |
| Kerio              | The CDC has coordinated with LMA to ensure that the sale yard project has been done well, and ensured that rangeland management committee has been formed to implement land demarcation.                                                                                                  | Adeso funding has also been introduced to the community through CDC, with which Adeso granted fund to IGA groups and LMA                                                                                                                                                                          |
| Lochwaangika matak | The DMC helped Akicha women group to apply for funds from AIDS control council. Some members of DMC joined the Akicha women group in the actual training of community on HIV education.                                                                                                   | VSF through the DMC upgraded Lochwaa water system by installing a solar power system and water kiosks, donated funds for the community to purchase livestock drugs and for Restocking of livestock. The DMC proposed the projects to be funded by VSF and did tendering for the project.          |
| LOKICHAR           | Market linkage both with Neema group (poultry) to Tullow oil company to supply eggs and Kangisajaa group (hides and skin) with Eldoret trader.<br>Work with water management committee at Kamarese and Lochoredome                                                                        | Provision of poultry feed by USADF to Neema group                                                                                                                                                                                                                                                 |

Source: JICA Project Team



### 3-1-3. External support / development activities and DMC's role

With regard to the DMC/CDC's role of entry point for the external support, the following are the experiences of the DMC/CDC members in linking the external support with the community. This shall be further analysed together with the understanding and view of the general community people mentioned in the above section 1.

**Table 3.3. External supports and role of DMCs**

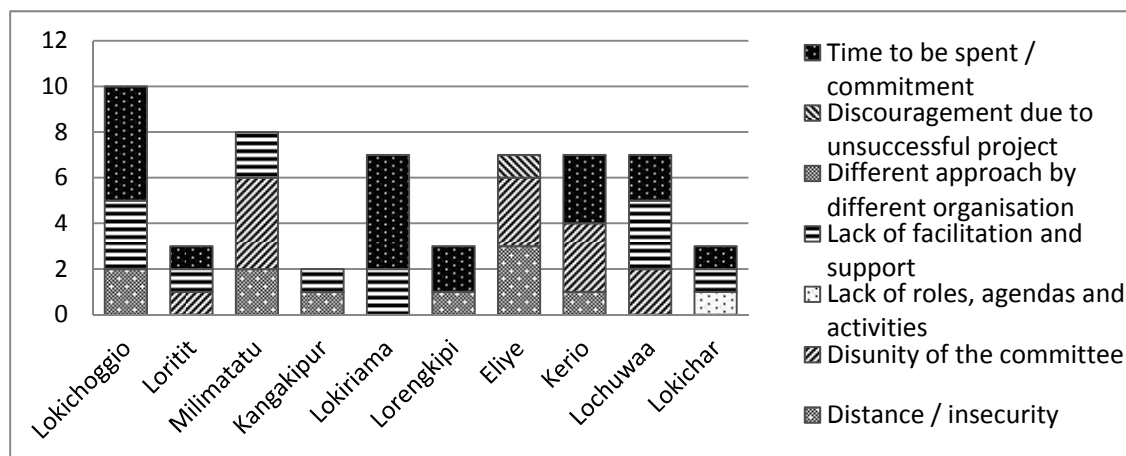
| Sub-Location       | Other development activities carried out in the Sub-location                                                                                                                                                                          | Development activities that were implemented through DMC/DC                                                                                                                                                                                                                                                                        |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lokichoggio        | HSNP has provided cash to vulnerable members in the community. The county government contributed Ksh.20m. to the community to upgrade the Lomidat slaughter house. Building of Anna Emuriakin primary school by Canadian missionary.  | NDMA and SDSP-trained CDC representative to convey key messages to the community on drought mitigation measure who in turn organize community meeting to educate them. Reseeding- the CDC through JICA implemented the activity with technical support by the government                                                           |
| Loritit            | Aloe vera project implemented by OXFAM                                                                                                                                                                                                | LWF has come through CDC to start implementing VICOBA at Akoros                                                                                                                                                                                                                                                                    |
| Mlima Tatu         | Water kiosks by oxfam, ECD dining hall and classroom and HSNP cash transfers by DFID                                                                                                                                                  | JICA - Supervision of drift construction borehole drilling and supervision of water pan rehabilitation at kasuguru and kabilikeret                                                                                                                                                                                                 |
| Kangakipur         | ECD classrooms- by the government. Water kiosk by Oxfam. Hunger Safety Net by DFID                                                                                                                                                    | HSNP Programs, World Vision (General food distribution), Helpage International, Save the children and Oxfam.                                                                                                                                                                                                                       |
| Lokiriama          | Provision of capital in form of loans by VSF-Belgium. Construction of a guest house by Lokiriama Peace Women Group                                                                                                                    | VSF-Belgium. DMC's role was to mobilize community during the training phase of the project.                                                                                                                                                                                                                                        |
| Lorengkippi        | Social protection- distribution of money by Helpage international. Water pan by KVDA                                                                                                                                                  | ACTED ECHO LANINA 3 project - DMC did the identification of beneficiaries and tendering for contractors. Buying of goats to the vulnerable community members by ACTED, which provided money to the DMC and they implemented the project. Distribution of livestock drugs- DMC were involved in community sensitization about drugs |
| Eliye              | Water conservation project by the government, BMU by USADF, governance training on land protection by FAO, Sales yard construction by CDF, health facilities by CDF, water tank by world vision, rangeland management training by CDC | Adeso gave funds to pastoral community through consultation with CDC, training by FAO to the community on land protection was conducted through CDC, demarcation of rangeland was introduced to the community through CDC with ECoRAD Project who trained them                                                                     |
| Kerio              | BMU by USADF and Adeso funding, Safaricom Network by Safaricom, health facility by CDF, ECD classroom                                                                                                                                 | Funding of groups by Adeso; Adeso identified CDC and discussed with them on which groups to be supported. The CDC were involved in supervising the project to ensure they are properly done                                                                                                                                        |
| Lochwaangi kamatak | Renovation of Lochwaa clinic by the government, Building nursery by Catholic Diocese of Lodwar                                                                                                                                        | VSF - ECHO- LANINA 3 project. The DMC proposed to VSF the community priority projects and they offered trainings to the DMC, the DMC was involved in procurement of construction materials of water kiosks and livestock drugs                                                                                                     |
| Lokichar           | Supply of water storage tanks at Kapese by Tullow oil, Dispensary, poultry house by USADF, Establishment of ECD classroom                                                                                                             | DMC went to USADF to seek for support through proposal writing and they established a poultry house.                                                                                                                                                                                                                               |

Source: JICA Project Team

### 3-2. Functions of the committee

#### 3-2-1. Difficulties in meeting or action as a committee

While the DMC/CDCs have taken action and accomplished some of their roles, most of them still have difficulties in running the committee. The followings are the opinions from the committee members.

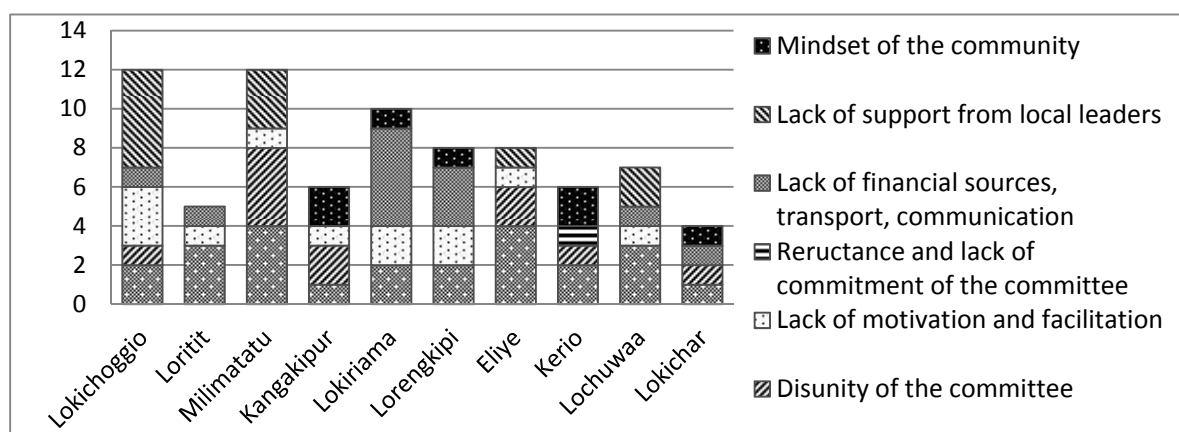


Source: JICA Project Team

Figure 3.1. Difficulties in meeting or taking action as a committee

#### 3-2-2. Difficulties of DMC in pursuing its roles

Difficulties the DMC members face in performing their roles might show relations between the DMC, community and the community leaders. It is also necessary to further analyze together with the opinions and views from other stakeholders.

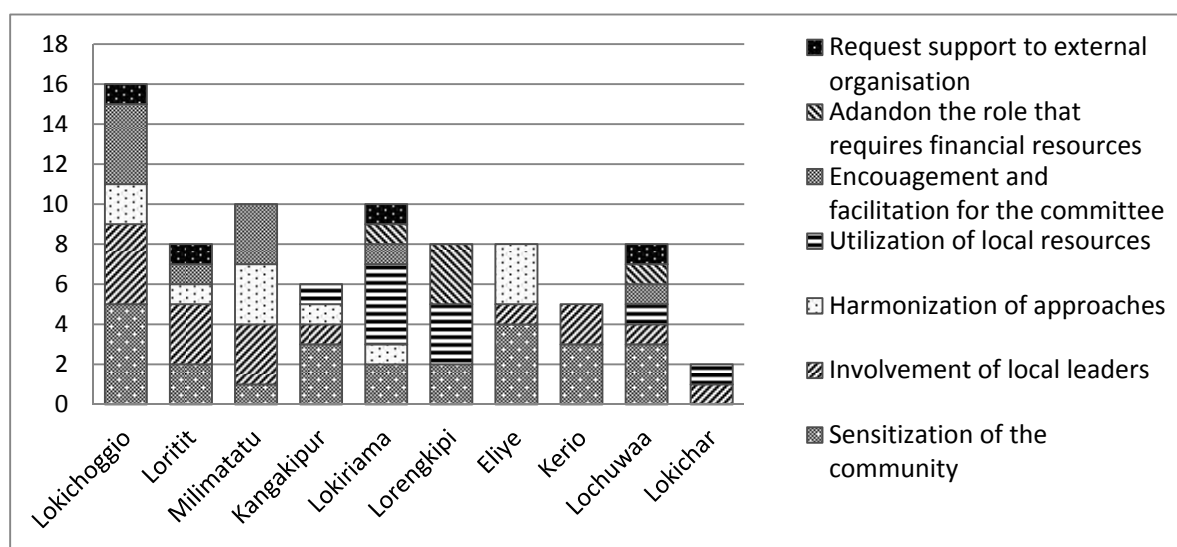


Source: JICA Project Team

Figure 3.2. Difficulties in pursuing DMC's roles

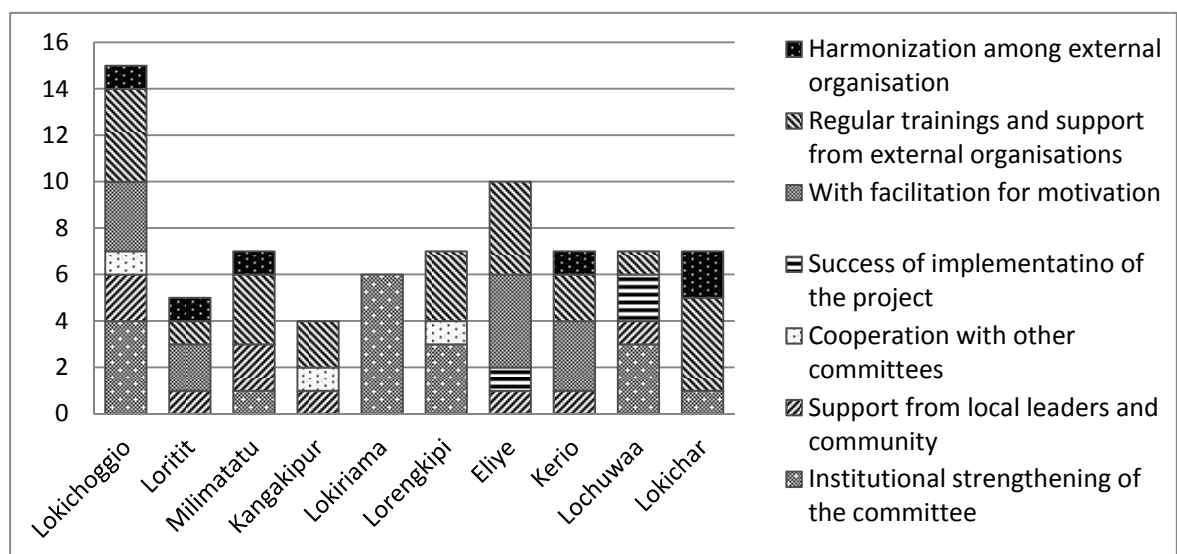
### 3-2-3. Sustainability of DMC/CDC

Sustainability can be assessed to some extent from the following results of the two questions, which are the answers on how to overcome the difficulties they and necessary factors they feel to sustain their functions. These indicate mindset of the committee to sustain their functions with their own effort or relying on external support. It should be noted that there are bias that seriously influence the result as respondents have tendency of faking good bias (social desirability bias) in their answer. Further judgment shall be made in total assessment with other information sources and observed situations.



Source: JICA Project Team

Figure 3.3. Strategies to overcome the difficulties in DMC/CDC

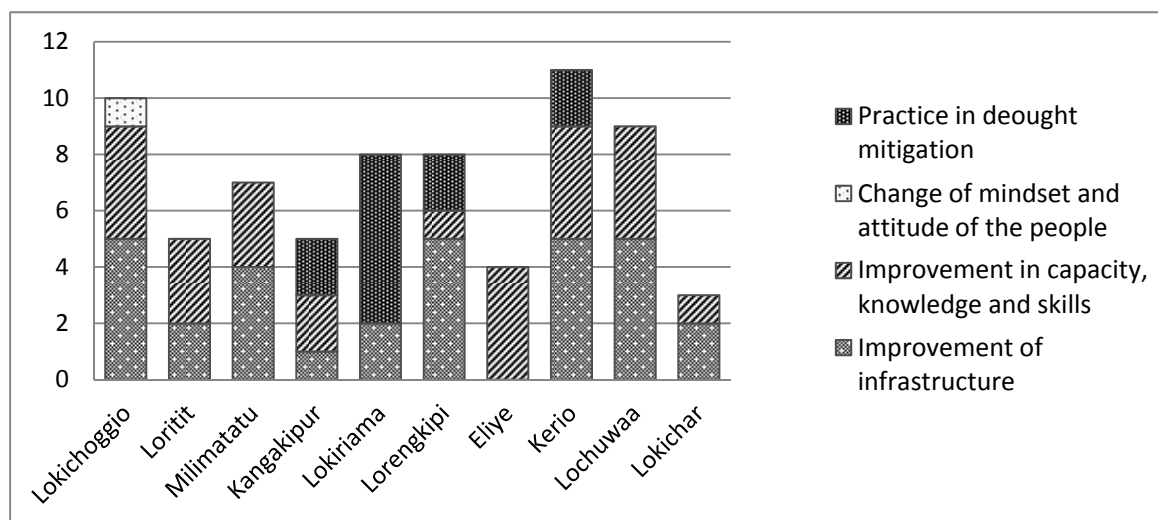


Source: JICA Project Team

Figure 3.4. Necessary measures and factors to sustain DMC/CDC functions

### 3-3. Recognition on benefit of development activities

Major changes recognized through the project are improvement of infrastructure and improvement of capacity, knowledge and skills. It might be too early to realize change in mindset and attitude within the short period of the project implementation. Change in practice also seems to take a little longer time to be observed.



Source: JICA Project Team

**Figure 3.5. Recognition of important change through ECoRAD Project**

#### **4. Result from the Questionnaire interview to Key informant**

Key informant interview was conducted to acquire basic information that can influence people's attitude and practice. The information collected can be used to assess influencing factors in evaluation of community resilience.

##### **4-1. Basic information on tradition and culture in for the target community**

Based on the collected information from the key informant interview, common traditional and cultural feature that can influence community resilience can be summarised as follows.

In Turkana society in general, clans remain as a strong social unit for people's life. Clans have council of elders who oversee the issue within the clan, maintain order in the clan, and make decisions on crucial issues in the community through. Council of elders dialogues with others in case of internal conflict. The clan elders lead traditional ceremonies and ensure that cultural values are upheld by people. Migration patterns are often decided in the clan through elders. Regarding social tie within the clans, people unite and act together in migration and herding, trading of livestock, peace dialogues, sharing resources, traditional ceremony, and helping each other. When people face problems elders gather the community and discuss how a certain problem will be solved by seeking for a consensus as a large group. Nowadays, the issue is sometimes solved with help of chiefs and local leaders.

Formal government and administrative structure has been understood only by a limited educated people. In the mean while, administrative chiefs have been recognized well and taken as leaders that distribute information, lead decision making, solve problems. People listen to the chief, as they do to traditional elders, diviners and seers. People's understanding on the role of administrative leaders include dissemination of information from government, creating awareness on development issues, allocation of resources and funds, entry point to external support and development support, and solving conflict in the area.

Dissemination of information has been done through traditional passengers who walk for a long distance to pass message, while it has been only partially replaced by public gathering and mobile phone communication nowadays.

##### **4-2. Basic information distinctive in each target sub-location**

The following table shows summary of the basic information that differs in each sub-location. The information shall be used to compare the situation among target sub-locations in relation with activities and potential for enhancement of community resilience. The following table is the summary of the responses from the interviewee, some of which require reconfirmation with other source of information during assessment.

Table 4.1. Summary of basic information of each sub-location

| Sub-Location       | History and future of the area                                                                                                                                                                                                                                                                                                                                                                                                                                | Where to purchase commodities                                      | How far                                                              | How often they go                                                               | Means of transport                                                                                                                                                       | Relation between clans                                                                 | Tribal minorities                                                     | Internal conflict in the area                                                                                                             | conflict with outsiders, what happen                                                                                                                     | Income sources                                                                                                                  | Available resources(financial, natural)                                                                         | Government support / intervention                                                                                                                                              | Other external support                                                                                                                             | Who brought                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Lokichoggio        | it started as apolce post during colonial period it was used as akye base after colonialist being resisted they were chased from the area.lokichoggio is atraditional well on top of the hill,it was later used in early nintiesto supply food to sudan during 21 yrs of fighting                                                                                                                                                                             | Lokichoggio                                                        | 2 kms                                                                | people purchase their commodities everyday                                      | they go on foot for those that are they use motor bikes                                                                                                                  | there is good relationship                                                             | somali,kikuyulu ghya and Nandi(4.5.3.1)                               | None                                                                                                                                      | Yes,from sudan but elders meet to settle dispute. Stealing of animals                                                                                    | wholesale kind of business on food and non food items .commercial sell of livestock and retail businesses(1,2,4)                | livestock and money is in circulation employment opportunities and quarry stones                                | Food aid ,drugs for livestock and CDF money upgrading of roads and slaughter house                                                                                             | Two bore holes drilled at Natwol and Nakeruman and upgrading of slaughter house at Lomidat and rehabilitation of water pans at Nasikiria and Nanam | JICA ,TERANOVA CEPSA,LOKADO and COUNTY government                                           |
| Loritt             | it started in 2000 when very severe drought had hit the area. People from kalelemot, loto and lokipoto migrated to akoros because of blanked distribution of food by LWF. The area later developed and became a permanent settlement with a primary school and ECD. there is commercial sell of livestock to kakuma and charcoal to the refugee camp                                                                                                          | kakuma                                                             | 50 km                                                                | 2-4 times a week                                                                | they trek and sometimes use public transport that is rare to find. Those who have use bicycles or motorbike                                                              | there is good relationship                                                             | no                                                                    | no internal conflict                                                                                                                      | no conflict. Whenever there is theft of livestock elders, dialogue and return livestock to the owners                                                    | charcoal burning, commercial sell of livestock, petty trade                                                                     | livestock. aloe vera                                                                                            | allocation of constituency funds/activity e.g. ECD, health facilities, relief food aid that is distributed every month, veterinary services                                    | drilling of borehole by JICA at kokorio, construction of ECD classroom,toilets by LWF                                                              | JICA, CDF, LWF                                                                              |
| Mlima tatu         | it started in 1989 immediately after drilling of one borehole which attracted settlement. Thereafter livestock vendors started exchange of livestock with maize,beans and maize flour. in 1991 Nakapelewei primary school was built this attracted more settlement, it is going to become business trading area                                                                                                                                               | lodwar and kakuma                                                  | 170 km-lodwar, 120 km- kakuma                                        | trice a week , according to livestock market                                    | through public transport or sometimes livestock vendors trek                                                                                                             | there is good relationship between clans                                               | there is good relationship between clans                              | no internal conflict                                                                                                                      | there is no conflict                                                                                                                                     | commercial sell of livestock to kakuma/lodwar,retail shop business, sell of charcoal                                            | quarry stones, livestock and aloe vera                                                                          | CDF projects,schools and health facilities, relief food aid that is distributed once a month                                                                                   | HSNP cash transfers, water kiosks by oxfam, 1 borehole, 2 water pans rehabilitation by JICA                                                        | HSNP cash transfers, water kiosks by oxfam, 1 borehole, 2 water pans rehabilitation by JICA |
| Kangakipur         | it came into existence during emergency operation relief aid operation in 1977 by OXFAM.Pastoralists who were living in Moruris moved downwards inorder to access food in kangakipur.the place later developed to be permanent settlement when the school and the hospital was established in KAERIS.                                                                                                                                                         | Kakuma/Lodawr                                                      | 120km/140 km                                                         | twice or thrice aweek                                                           | People go there on public means. But transportation is not promising                                                                                                     | There is a good relationship                                                           | No                                                                    | No conflict, but a little stealing of camels from other clans. It is caused by decline of morals within the society.                      |                                                                                                                                                          | Retail shop business,charcoal burningand commercial sell of livestock(3.1.2)                                                    | Aloe vera. Mineral-gemstones                                                                                    | Relief- monthly. Community development fund- annually. Employment opportunities                                                                                                | Sand dam. Borehole. ECD classroom                                                                                                                  | JICA. Diocese of Lodwar. CDF                                                                |
| Lokiriama          | People started settling in 1960, pastoralists settled at Lokiriama because it had good grazing lands. The centre developed very slowly due to the insecurity at the Uganda border. A peace accord was signed in 1973 which opened up lokiriama for more people to settle. When the chief was deployed there in 1997, he mobilized some people and they agreed to settle. Business between Lokiriama and Moroto encouraged more people to join the settlement. | Lodwar, Moroto                                                     | Lodwar -106 km Moroto - 42 km                                        | Lodwar - 2-3 times a week Moroto- 3 times a week                                | Motorbikes: 2500/= to Moroto,4000/= to Lodwar. Hired cars; 12000/= to Moroto, 15000/= to Lodwar. Privates vehicles; 200/= to Lodwar, 800/= to Moroto. Trekking to Moroto | The relationship is good                                                               | Somali - 4 people Kalamojong-1 people                                 | Yes, Theft within the community                                                                                                           | Conflicts over grazing patterns and cattle rasting-The hold peace meetings and sometimes report to senior administrators like the District Commissioner  | Small retail shops, selling wild fruits, gold mining. 10% of people have another source of income.                              | Quarry, sand, gold, trees, gemstones, water                                                                     | Relief - brought once a month Restocking - after six months                                                                                                                    | Relief, village bank                                                                                                                               | Oxfam, VSF-Belgium                                                                          |
| Lorengkippi        | The first settlement was in Loya, it started as a station of british army and later it became an administrative police camp after the british left. People started settling in Loya in 1950's. Chief Achila started the settlement in Lorengkippi because he preferred the place than Loya. Other people started joining him and due to insecurity at Loya, all the people migrated to Lorengkippi                                                            | Lodwar, Alale, Moroto                                              | Lodwar -110 km, Alale - 57 km, Moroto - 70 km                        | Lodwar - Twice a month, Alale - Only when there is peace, Moroto - Once a month | Depends on well wishers, NGOs and police. sometimes public service vehicle to Lodwar cost ksh. 600/=                                                                     | The relationship is good                                                               | Somali - 10 people,Luhya-3 people, Pokot -8 people                    | Yes, Grazing areas, sharing water resources, distribution of relief                                                                       | Conflicts over sharing resources, cattle rasting, boundaries. - hold meetings with all leaders from the conflicting places and the District Commissioner | Small retail shops, small scale farming, gold mining, quarrying, selling firewood. 30% of people have another source of income. | Quarry, sand, gold, trees ,land, Aloe vera and Arabic gum                                                       | Relief - only during emergency cases 2) Restocking - not regular 3)Livestock drugs - After three months                                                                        | 1) Relief 2)Water resources 3) Restocking 4) Grants                                                                                                | 1) World food 2) JICA, Diocese of Lodwar 3)ACTED 4)FAO                                      |
| Eliye              | Eliye started in 1969 as a settlement for famine stricken people from Nadoto and settled in aplace called lotiira in naoros sub location some of the people migrated to kalok.the future of Eliye is that it will be a resort city in turkana and it will be part of Lapsr project.                                                                                                                                                                           | Lodwar                                                             | 65km                                                                 | thrice aweek                                                                    | public means of transport(motor bikes and vehicles ksh 300/= one way                                                                                                     | there is good relationship                                                             | kalenjin,luo, luhya and kikuyu                                        | No                                                                                                                                        | there is no conflict but when there is conflict elders call for dialogue to settle disputes                                                              | Weaving/basketry,fishing and petty trade                                                                                        | Doom palm for weaving and basketry,lake turkana-for fishing activities and natural spring as tourist attraction | Construction of a resort city in Eliye, Relief food aid,Secondary school/primary,ECDs and health facilities                                                                    | Adeso funding to pastoralist-280,000/=,water tank by world vision and secondary school construction by CDF                                         | ADESO,WORLD VISION, USADF AND CDF                                                           |
| Kerio              | kerio grew up as a trading centre for a few merchant who were dealing with sell of food stuffs to pastoral communities ,the late Mp for turkana south was among a few merchants who started business in original kerio before flood forced people to move to the present kerio, KERIO is promising to be a very big market for livestock. Oil exploration is also going to make it vibrant                                                                    | Lodwar                                                             | 52KMS                                                                | once to twice a week                                                            | they travel by public transport either motorbikes or private vehicle                                                                                                     | there is good relationship                                                             | None                                                                  | N/A                                                                                                                                       | No conflicts                                                                                                                                             | sell of livestock, retail trade,basketry and weaving and fishing(4.3.2.1)                                                       | there is a lake and doom palm for weaving                                                                       | CDF funds for area development and education,relief food aid and employment                                                                                                    | sale yard upgrading by JICA one borehole at kouring(LOSAGAM) bridge upgrading by county government                                                 | JICA,AND COUNTY GOVERNMENT                                                                  |
| Lochwaangik amatak | Initially it was an area for pastoralists, people started settling at around1970, they started building small houses and opening small businesses, some people were opposed to the idea of making Lochwaa a centre but others ignored and settled.                                                                                                                                                                                                            | At Lochwaa centre, Lodwar, Lokichar, Kitale                        | Lochwaa- 100 metres, Lodwar- 67 km,Lokichar - 25 km, Kitale - 115 km | Lochwaa - daily, Lokichar and Lodwar - fortnightly, Kitale - monthly            | Lochwaa by trekking and others by Public service vehicle ( Lodwar- 400/= , Kitale - 2000/=)                                                                              | The relationship is good but sometimes some clans are selfish when it comes to sharing | Somali - 1%,Kikuyu, Luhya, Nandi, Teso - 1 % ( working In government) | some people stealing livestock from others, sometimes intermarriages between clans causes conflicts if the involved families do not agree | Conflicts over boundaries, Chiefs and elders call a meeting to resolve the conflict                                                                      | Small businesses (retail shops, charcoal burning), 30% have other income sources                                                | Quarry, sand, gold, trees and oil                                                                               | Relief- once in two months 2) Funds for orphans and disabled - have only been received just once                                                                               | 1) Two boreholes 2)Destocking 3)Construction of chiefs office 4) Distribution of money                                                             | 1) JICA 2 \$ 3) VSF 4) Helpage International                                                |
| Lokichar           | It started in 1970s when there were establishments of Lokichar primary school and reformed church, it eventually by retail shops which were initiated by Somali people and originally it served as a water point for livestock                                                                                                                                                                                                                                | Lokichar town commodities come from retails from kitale and Lodwar | Lokichar town- 500 Metres Kitale- 211 km, Lodwar- 100 km             | Lokichar- Daily Kitale- once per week, Lodwar - once in two months              | Trekking to lokichar. Public means- transportation cost to kitale is ksh. 1000/= and at times varies depending on luggage.                                               | The relationship is good                                                               | Turkana- 90%, Somali- 7%, Kikuyu, Meru, Luhya- 1%                     | Yes, Theft, Business rivalry and unemployment                                                                                             | Cattle rasting between different sublocations, fights over administrative boundaries. Chiefs and elders come together to resolve the issues              | Retail shops,charcoal and firewood selling, Sand and quarrying and livestock trading                                            | Livestock, sand , trees, hardcore, gold, oil.                                                                   | Relief food (four times a year), education bursaries, development of water resources, medical supplies, hunger safety networks. The support is continuous through out the year | Establishment of classrooms in primary schools, construction of nursery school and relief food                                                     | Tullow oil, world vision, church based organizations, Save the children,JICA                |

**Abbreviations**

|         |                                                                                                                      |
|---------|----------------------------------------------------------------------------------------------------------------------|
| BMU     | Beach Management Unit                                                                                                |
| CAP     | Community Action Plan                                                                                                |
| CDF     | Constituency Development Fund                                                                                        |
| DMC/CDC | Drought Management Committee / Community Development Committee (DMC and CDC are used interchangeably in this report) |
| CMDRR   | Community Managed Disaster Risk Reduction                                                                            |
| ECD     | Early Childhood Development                                                                                          |
| EWS     | Early Warning System                                                                                                 |
| HSNP    | Hunger Safety Net Programme                                                                                          |
| IGA     | Income Generation Activities                                                                                         |
| KFDA    | Kenya Fisheries Development Authority                                                                                |
| KVDA    | Kerio Valley Development Authority                                                                                   |
| LMA     | Livestock Marketing Authority                                                                                        |
| NDMA    | National Drought Management Authority                                                                                |
| TRP     | Turkana Rehabilitation Project                                                                                       |
| USADF   | United States African Development Fund                                                                               |
| VICOBA  | Village Community Bank                                                                                               |
| WUA     | Water Users' Association                                                                                             |