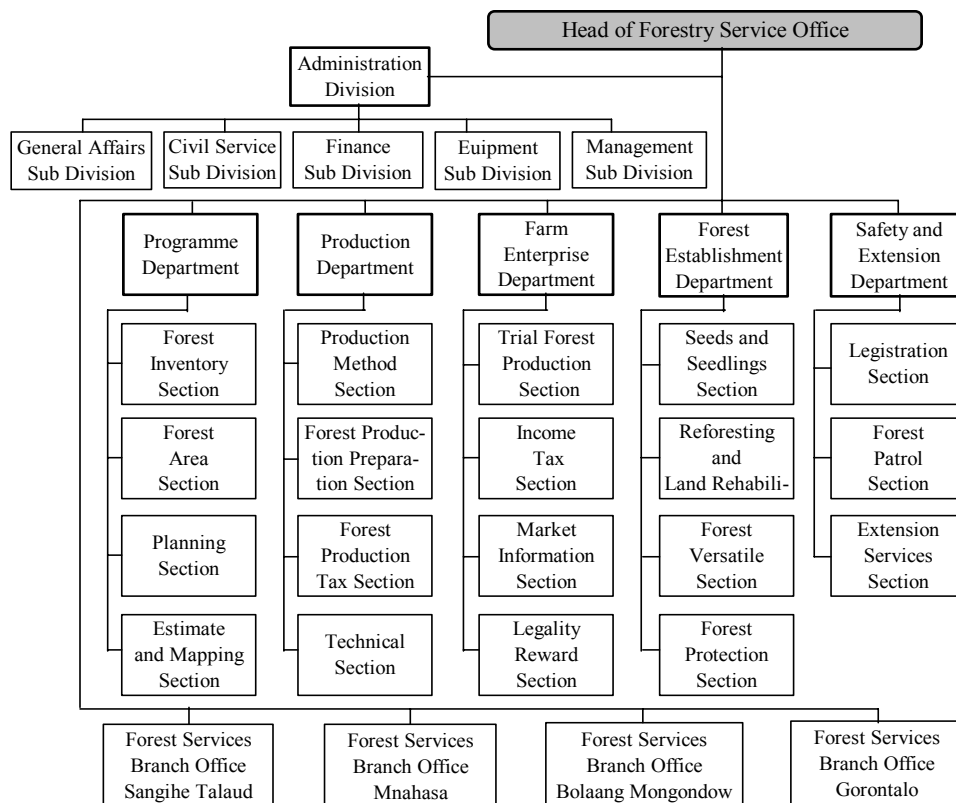


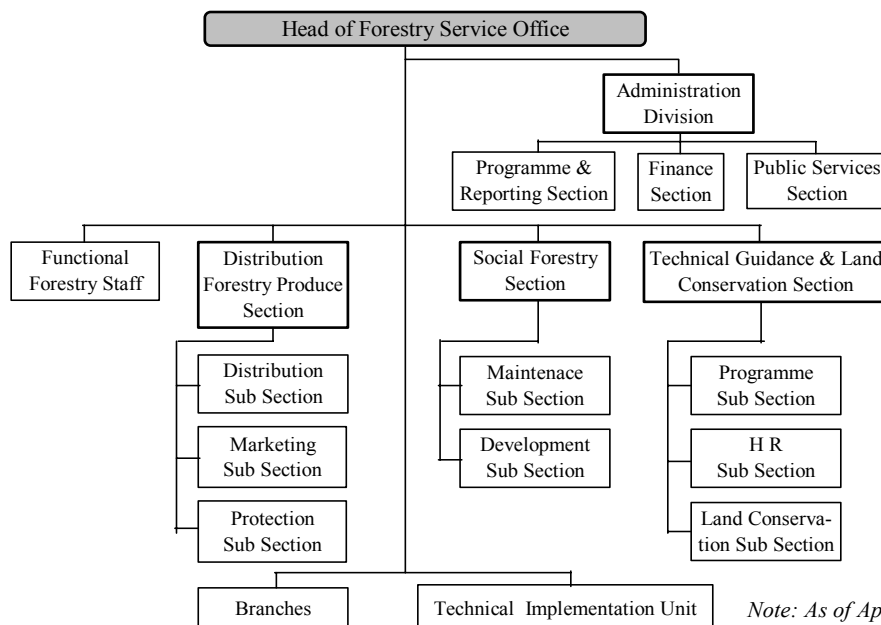
Figures

Forestry Service Office in North Sulawesi Province



Note: As of April 30, 2000

Forestry Service Office in Minahasa District



Note: As of April 30, 2000

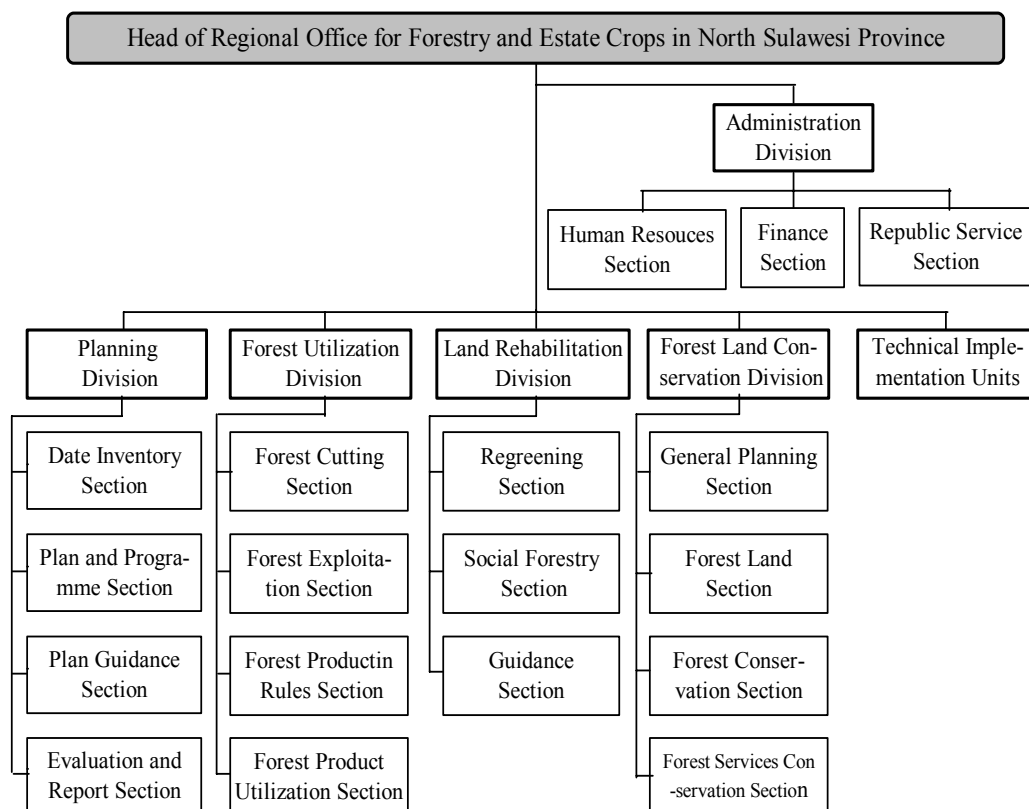
The Study on Critical Land and Protection Forest Rehabilitation at Tondano Watershed in the Republic of Indonesia

Japan International Cooperation

Figure I.3.1

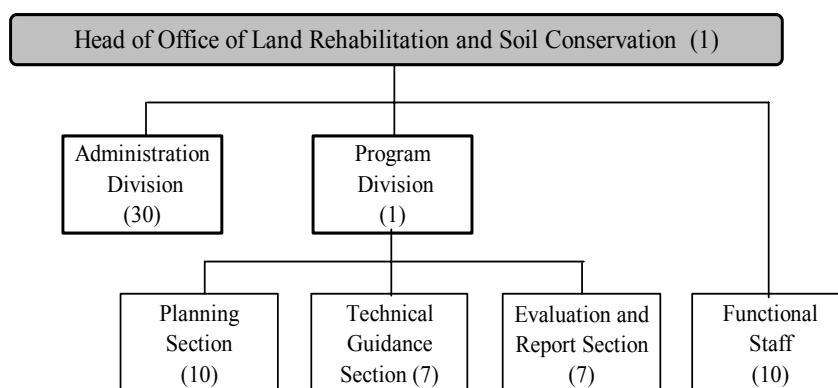
Organizational Structure:
Former Forestry Services Office

Regional Office for Forestry and Estate Crops in North Sulawesi Province



Note: As of April 30, 2000

Office of Land Rehabilitation and Soil Conservation



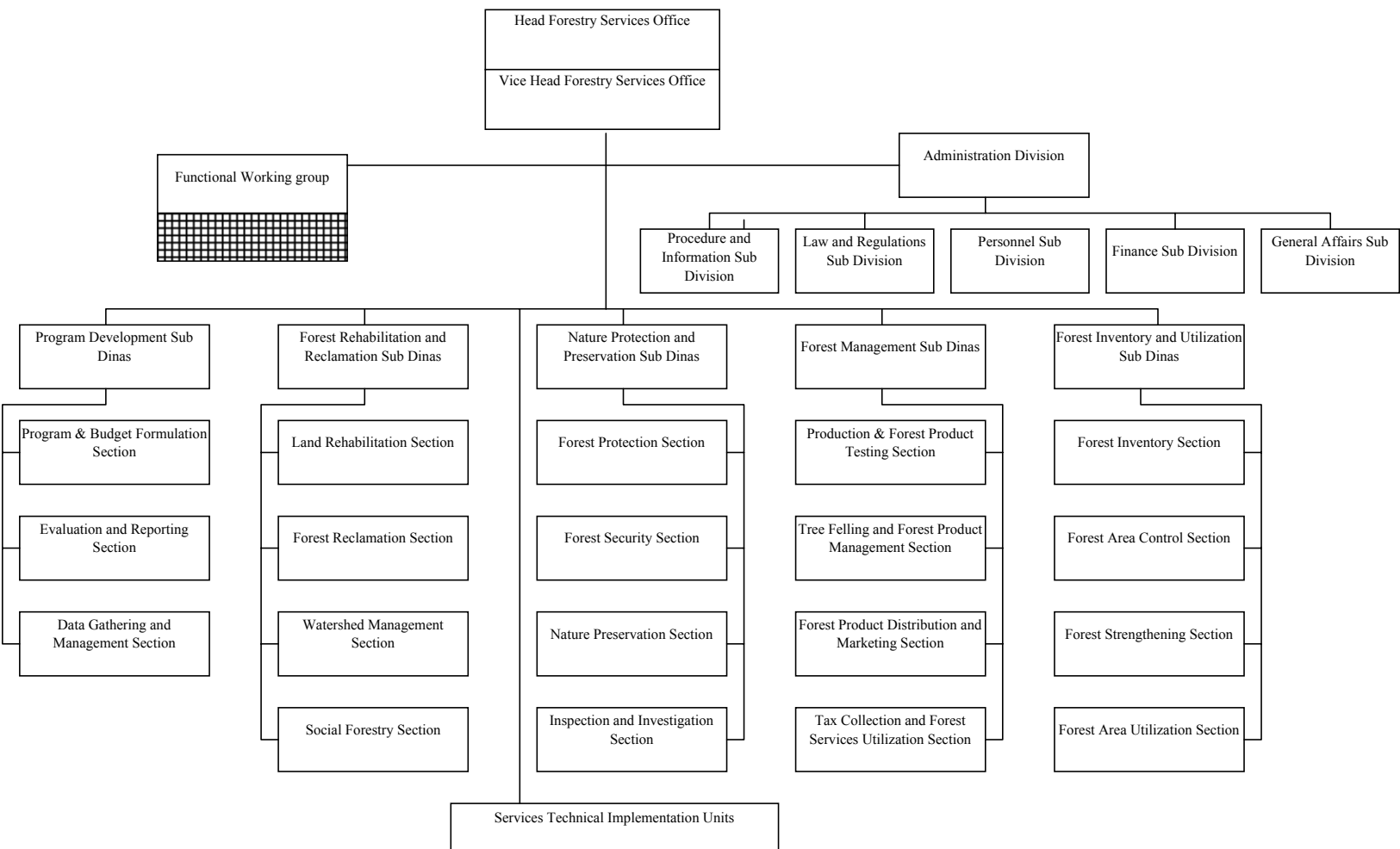
Figures parenthesized mean the number of staff.

Note: As of April 30, 2000

The Study on Critical Land and Protection Forest Rehabilitation at Tondano Watershed in the Republic of Indonesia

Japan International Cooperation Agency

Figure I.3.2
Organizational Structure:
Former Province Office of Forestry (Kanwil) and
BRLKT Office

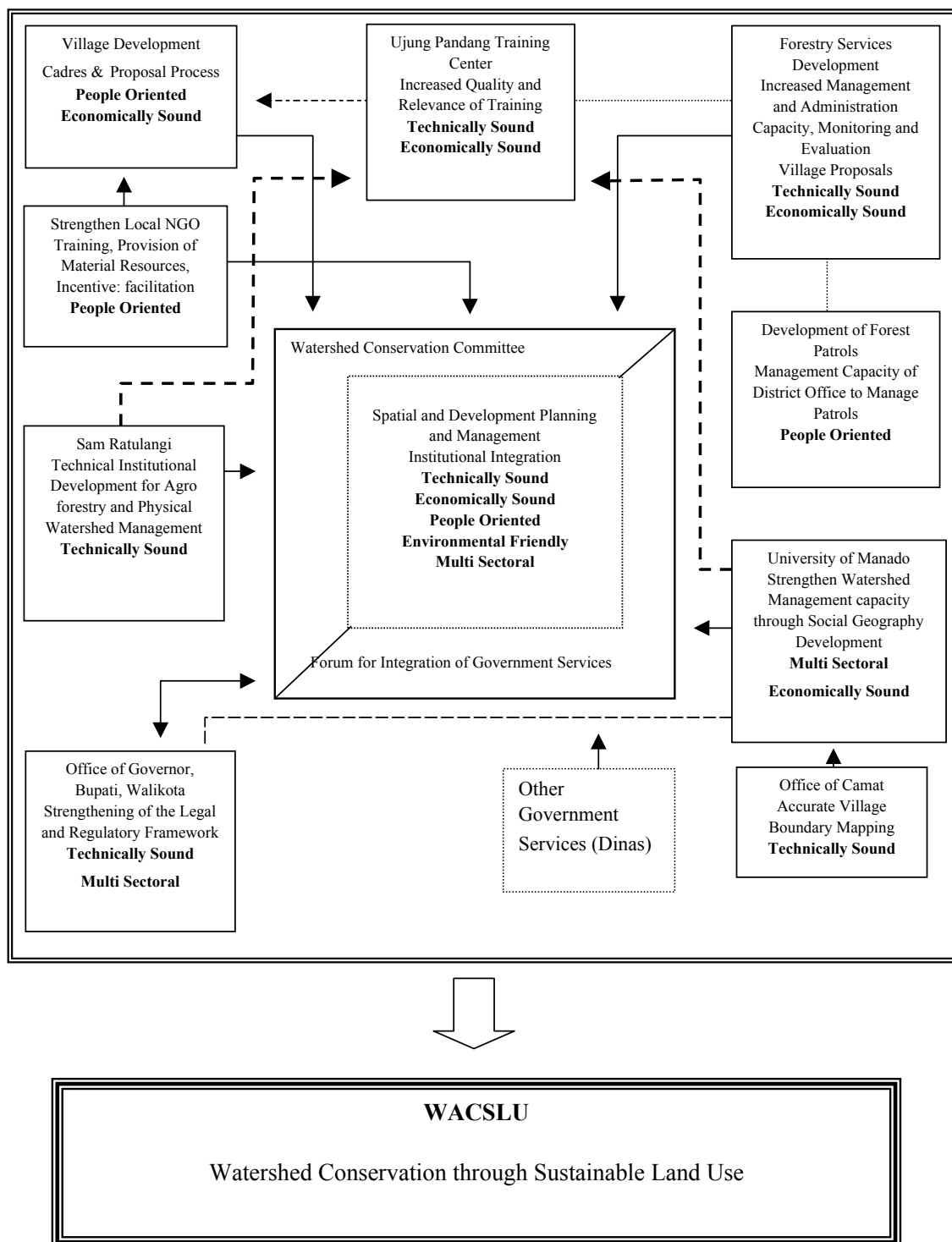


The Study on Critical Land and Protection Forest Rehabilitation at Tondano Watershed in the Republic of Indonesia

Figure I.4.1

New Draft Organizational Structure:
Provincial Office of Forestry Services

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**The Study on Critical Land and Protection Forest
Rehabilitation at Tondano Watershed
in the Republic of Indonesia**

Japan International Cooperation Agency

Figure I.5.1

Integrated Watershed Conservation Process

Attachment-I.1

Table of Capacity Gaps

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
1	Standards for border indicators and construction	Central Office	None	
2	Provide support to organize educational and technical training, as well as research and development of applied forestry	Central/Regional Government/Donor Agency	No gaps identified	
3	Consistent dissemination of general watershed awareness information	Church groups	None	Establish dialogue with church groups. Apply a social marketing strategy and develop efficient messages to convey through churches
4	Prepare engineering standards for physical measures	DGLRSF Soil Conservation Techniques Section	None	
5	Analyze District data and information, Prepare simple reports in interesting format	Dishut Minahasa	No organizational home Lack of reliable data and information Supporting human resources Hardware and software, Operational budget	Create organizational home in new office structure: Information Systems Development Strategy through installation of hardware software, and training of human resources
6	Apply integrated pest control	Sub Dishut Minahasa/RPH	No supporting material resources, no skilled staff	Establish District office integrated pest and disease control section, provide hardware and consumables, training for RPH staff
7	Call tenders for border indicator construction	Office of Forest Spatial Planning Manado	None	Establish province project office or management structure in new organizational structure. Install capacity building consultants in district office, call for tenders for construction from village based groups. On the job training. Village proposal process
8	Call tenders for trail construction	Dishut Minahasa	No organizational home	Establish province project office or management structure in new organizational structure. Install capacity building consultants in district office, call for tenders for construction from village based groups. On the job training. Village proposal process
9	Design of physical measures in the field	Dishut Minahasa	No organizational home. Unqualified human resources	Establish Engineering section in District office recruit and train engineering staff, on the job experience with engineering consultants
10	Design recruitment criteria for extension workers	Dishut Minahasa (Human resources section)	No human resource management skills	HRD Consultant work together with Human resources section, technical assistance, on the job training/counterpart assignments
11	Form consensus between government and local population about forest boundaries	Dishut North Sulawesi (Forest Spatial Planning Office) and (Information and Procedures Sub Division)	Unreliable mapping, lack of technological support for maintaining and monitoring boundaries, only one GIS specialist in office, no staff to support when specialist not available all activities stop	Boundaries have been identified on the maps through feasibility study (find consensus in the field) Recommend update of computers and software to more user friendly type and training Forest Spatial Planning Office (UPT). Install differential GPS capacity. Base station.
12	Verify plant pests and diseases that occur	Dishut Minahasa	No organizational home, human resources	Establish function in new structure. Train staff in pest and plant diseases (Local university)

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
13	Process data	Dishut Minahasa	The organization lacks human resources, hardware, software and operational budget. No capacity for IT management	Task 5
14	Provide loket informasi at local office Provide staff to attend loket Provide training for staff	Dishut Minahasa	No organizational home	Task 5
15	Recruit temporary extension workers (village cadres)	Dishut Minahasa	No human resource management skills	HRD Consultant work together with Human resources section to manage first intake and develop an ongoing management capacity to maintain numbers at optimal level
16	Monitor construction of trails and border indicators	Sub Dishut Minahasa/RPH	Transport/mobility	Work together with district engineering staff in engineering section of new structure (Task 9)
17	Management of Funds	Dishut Minahasa (Finance Section)	There is capacity, however general training in financial and budgeting skills as well as supervision is required to upgrade skills	Financial/project management Consultant work together with finance section, develop procedures and budgeting skills
18	Planning and estimation of cost	Dishut Minahasa (Finance Section)	There is capacity, however general training in financial and budgeting skills as well as supervision is required	Task 17
19	Promote nursery business	Dishut Minahasa Office	District - Community communications. Not enough personnel	Establish village cadre group, Training for village cadres as extension services, and information systems developments
20	Supervision of erosion, sedimentation, and productivity of land	Dishut Minahasa Office	Technical skills and operational budget	General capacity developed through information systems development and technical training, Development of University of Manado Watershed Conservation Center, and integration of all conservation activities through committee
21	Supervision of rehabilitation, nursery systems	Dishut Minahasa	Capacity currently below optimal (not enough extension personnel) existing staff require training to upgrade and prepare for agro forestry development	Train 64 district office extension workers/project supervisors, deploy in cooperation with community
22	Coordinate rehabilitation and conservation programs at district level	Dishut Minahasa (Program Sub Section)	General management and information skills	Task 5 plus district guidelines from provincial office
23	Create annual district conservation plans according to annual recommendations from Province	Dishut Minahasa (Program Sub Section)	General management and planning skills	Work together with Institutional Capacity Building consultant, Formulate district Master plan for intensive area

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
24	Coordinate re-assertion and securing of forest boundaries on the ground	Dishut North Sulawesi (Forest Spatial Planning Office) and (Information and Procedures Sub Division)	Communications (Forestry Department - Community)	Improve the relationship with community through village based cadre program and awareness building, establish visible forest patrols and trails
25	Record accurate locations of physical measures and conservation activities on the ground	Dishut Minahasa (Technical Guidance and Land Conservation Section)	existence of organizational home unclear	Task 5 and 5-7 meter GPS accuracy-GPS training, establish improved monitoring and evaluation capacity
26	Gather and transfer data from lower level offices to Province	Dishut Minahasa	No organizational home	Task 5
27	Identify priority villages to take part in forest border and trail construction and maintenance	Sam Ratulangi University	There is no real capacity gap. The capacity for field research exists, however, some supervision would be needed to ensure accurate results, and funding.	Undertake a regular annual field survey of villages starting with a pre survey research based on secondary data resources. The RRA survey can be used as the initial guidelines.
28	Plan and supervise programs at district level (extension services)	Dishut Minahasa Office	No organizational home	Create an organizational home, and train existing extension staff (64) as field supervisors
29	Supervise data collection	Dishut Minahasa Office	No organizational home	Task 5
30	Selection of village proposals	Dishut Minahasa/DPD/LKMD	No guidelines or experience in proposal selection.	Develop guidelines for village level proposal and funding in the initial stages of development. Develop standard operating procedures during the institutional development stages based on the development experience
31	Strengthen the working relationship between province and district institutions. Overcome present Authority vacuum	GovernorBupatiWalikota	The move to decentralization and regional autonomy has created uncertainty for the future that is prevalent in all government offices. There are no formal organizational structures	Provide Joint Decree about watershed management roles of province and district/municipality offices for all related institutions, revise local legal and regulatory framework. develop new organizational structures. Provide technical legal expert
32	Support the project visibly	GovernorBupatiWalikota	No gaps identified	Ensure proposal has support of all parties
33	Record and monitor village boundaries	Kantor Camat	Human resources and basic approach already in place through local surveying contractor. Some minor problems in the end product.	Standardization and on the job training program for staff from Camat's office to produce village boundary maps in standard form with appropriate geographical reference points to enable overlay and adjustment to existing accurate maps. Installation of Differential GPS capacity.

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
34	Apply disease control measures	Local Forestry Offices (CDK/RPH)	Hardware and transport. The basic capacity exists, however, there is a need to provide some short training programs for application of disease control measures	Provide appropriate transport to access sites and appropriate equipment to control disease or pests in protection forests. Provide on the job training by close coordination with province office
35	Establish forest patrols with appropriate technology	Local Forestry Offices (CDK/RPH)	The forest patrols are at present limited by two major factors: 1) lack of appropriate transport to patrol borders, and 2) lack of sufficiently well maintained border trails.	See Appendix -F for the detailed plan
36	Identify accurate Location of trails on the ground and mark trails	Local Forestry Offices (CDK/RPH)	Accurate maps and reliable equipment, untrained human resources	Provide local forestry offices with accurate maps, GPS units, and marker pegs. Provide on the job training in GPS
37	Monitor and supervise maintenance of forest borders and trails	Dishut Minahasa	Monitoring and evaluation capacity for tracking border condition and determining location of maintenance sites	See Appendix -F for the detailed plan
38	Provide data to province about accurate location and scope of forest destruction	Local Forestry Offices (CDK/RPH)	No standardized data gathering format and lack of equipment to support accurate mapping of forest destruction	Task 5 Standardized data gathering format, Task 36 training and equipment supply
39	Report on suspected plant pests and diseases	Local Forestry Offices (CDK/RPH)	No skills for disease and pest identification in the field	Work closely with village community and forestry offices (district and province). Make regular reports of suspected diseases or pests and provide coordinates of location to be recorded in GIS
40	Update conservation data regularly (WCIS)	Dishut North Sulawesi	No standardized data gathering format or system	Task 5, On the job training, develop data gathering sites, standard data gathering forms
41	Provide training for extension service cadres and NGO facilitators	Makassar Training Center	Inappropriate training programs, and training currently based on needs as determined by the budget of the training center	provide funding for initial basic training, Provide updated training material from University Agro-forestry research and development program (Task 58). Develop training materials through physical measures engineering program. Upgrade training programs in Makassar training center.
42	Provide training for extension service supervisors	Makassar Training Center	Inappropriate training programs, and training currently based on needs as determined by the budget of the training center	Provide training material from University Agro-forestry research and development program (Task 58). Develop training materials through physical measures engineering program.

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
43	Develop social marketing strategy (watershed conservation)	NGO FKPSDA	Lack of permanent employees, mobility and limited funding and motivation	Need training and funding for mobility, vehicles, incentive
44	Facilitate identification of priority projects	NGO	Lack of permanent employees, mobility and limited funding	Need training and funding for mobility, vehicles, incentive
45	Develop credible soil conservation pressure group	NGO	Capacity exists, but Lack of permanent employees, mobility and limited funding and motivation	Need training and funding for mobility, vehicles, incentive
46	Develop an alternative watershed project monitoring capacity	NGO	Capacity exists but as above	Need training and funding for mobility, vehicles, incentive, IT capacity for monitoring and evaluation (Task 5)
47	Provide community education and awareness programs about watershed conservation	NGO FKPSDA	Lack of permanent employees, mobility and limited funding,	Strengthen NGO by providing development funding, mobility (vehicle), incentives (Honoraria)
48	Begin to instill watershed awareness and other information through school system	Senior Secondary Schools/OSIS	No guidelines or approach developed	Provide venue for OSIS activities as work experience in watershed conservation, in Watershed Conservation Center of Unimad.
49	Family information days	Senior Secondary Schools /OSIS	No guidelines or approach developed	Provide support for schools to run family days about conservation (tree planting etc.) Work with Manguni
50	Analyze watershed data and information, Prepare simple reports in interesting format	Dishut North Sulawesi (Watershed Management Section)	No staff with experience in this area. Hardware and software not available	Task 5, Develop watershed policy information analysis and reporting capacity through Information systems development and on the job training for analysis. Form linkage to University of Manado Watershed Conservation Center
51	Create Inventory of equipment, fertilizers, machines, pesticides and innovations that affect forestry and soil conservation	Dishut North Sulawesi (Forest Inventory Section)	Hardware and software not supportive. No access to international information.	Task 5, Create equipment, fertilizer, pesticide and machinery inventory section in new structure. Link to website
52	Monitor soil conservation programs at watershed level	Dishut North Sulawesi (Evaluation and Reporting Section)	Need installation of new computers and software, training and mobility improvements	Task 5 plus supply transport and appropriate operational budget
53	Confirm plant pests and diseases that occur	Dishut North Sulawesi (Forest Protection Section)	There is an organizational home with a broad based set of duties but no specific home for this role	Create the role through training in plant pests and disease identification and control (Sam Ratulangi University)
54	Develop database of plant pests and diseases	Dishut North Sulawesi (Forest Protection Section)	There is an organizational home with a broad based set of duties but no specific home for this role	Task 5 (assign a person to the role)
55	Develop knowledge base on plant pests and diseases	Dishut North Sulawesi (Forest Protection Section)	There is an organizational home with a broad based set of duties but no specific home for this role	Task 5 (assign a person to the role)

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
56	Monitoring of plant pests and diseases, and need for integrated pest control in forests	Dishut North Sulawesi (Forest Protection Section)	There is an organizational home with a broad based set of duties but no specific home for this role	Task 5 (assign a person to the role)
57	Establish Watershed GIS	Dishut North Sulawesi (Evaluation and Reporting Section and Watershed Management Section)	The former Measurement and mapping section had skilled human resources for computer operation and GIS. The skills are however in need of updating. Hard ware and software need to be updated. Operational budget also not sufficient	Task 5, Strengthening and diversifying current capacity through installation of computers (LAN) and software, training for staff
58	Map interpretation for forest boundaries	Dishut North Sulawesi (Forest Spatial Planning Center)	There is a general problem with the maps that have been available to this office in the past. However, the JICA study has produced an accurate set of maps for the Tondano watershed, which would form the ideal base for this role.	Task 5, Introduce Mapinfo software, provide stereoscopes and aerial photos
59	Apply Master plan Develop Medium term planning Develop Annual planning	Dishut North Sulawesi (responsible section currently unclear) but likely in new structure (Office of Land Rehabilitation and Seedling Development)	This capacity exists within the structure of the BRLKT office. Hopefully the new organizational structure will include this role (and the key staff from BRLKT). Universal problems with salary, operational budget and underdeveloped information systems	Task 5
60	Develop annual planning guidelines for district office	Dishut North Sulawesi (as above)	As above	Task 5
61	Establish watershed impact signaling system	Dishut North Sulawesi (Watershed Management Section)	Unreliable data and information, This is a function that will need to be included in the new structure. Good information is a basic necessity for conservation management	Task 5, work closely with University of Manado Watershed Conservation Center and Watershed Information System consultants

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
62	Coordinate soil conservation programs at watershed level	Dishut North Sulawesi (Office of Land Rehabilitation and Seedling Development)	This role is included in the master planning role the capacity is currently available if supported by reliable data	
63	Create watershed, land, and soil conservation management database	Dishut North Sulawesi (Data Gathering and Management Section)	This role is not yet developed but would necessarily be included in information systems development	Task 5
64	Design and update master-plan according to latest data as needed	Dishut North Sulawesi (Office of Land Rehabilitation and Seedling Development)	This capacity exists and will be strengthened by information systems development	Task 5
65	Design database and data collection strategy	Dishut North Sulawesi (Data Gathering and Management Section)	The human resources of this department would be easily developed for this role through information systems development the key word being "simple" keep it simple.	Task 5
66	Develop link to international community about forest and soil conservation	Dishut North Sulawesi (Watershed Management Section)	There is a major capacity gap in the lack of access to the latest innovations from the international community.	Task 5, Create website, provide an internet linkage to increase exchange of information
67	Process data	Dishut North Sulawesi (Data gathering and Management Section)		Task 5
68	Provide basic information for public consumption	Dishut North Sulawesi (Sub Dinas of Program		Task 5
69	Provide policy input about watershed conservation through research and report writing	University of Manado	Current lack of capacity is related to human resources and information systems development.	The capacity will need to be developed through a university assistance scheme. Ideally a number of small research projects should be developed to provide concrete answers to the questions that often arise in the general public about the watershed. This role would suit a university with a geography faculty and watershed management program
70	Report on current watershed condition (forest, soil and land conservation)	Dishut North Sulawesi (Watershed Management Section)	As above, included in information systems development	Task 5
71	Report on soil conservation programs at watershed level	Dishut North Sulawesi (Evaluation and Reporting Section)	As above included in information systems development	Task 5
72	Standardize data gathering forms	Dishut North Sulawesi (Data Gathering and Management Section)	As above included in information systems development	Task 5

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
73	Supervise conservation projects at watershed level	Dishut North Sulawesi (Office of Land rehabilitation and Seedling Development)	Current atmosphere and authority vacuum that prevents optimum communications between province and district offices	Revise legal and regulatory framework, Joint decree
74	Establish forest boundaries on the map	Dishut North Sulawesi/Dishut Minahasa	Current lack of general capacity to record borders in the field, and the lack of support for GIS operations at province level	This will be done as part of the feasibility study. It is expected that once established on the map and verified in the field, the boundaries will be maintained indefinitely by increased patrols, and quality of monitoring
75	Agricultural research and development	Sam Ratulangi University	This capacity exists. Sam Ratulangi University has an agriculture faculty with five Departments including a Cultivation Department, Soil Department, Pest and Disease Department, Socio Economic Department and an Agricultural Technology Department.	No capacity building required
76	Develop appropriate local applications of agro-forestry	Sam Ratulangi University	There is currently no agro forestry research capacity. Agro-forestry consists of a mixture of agricultural, forestry and agronomy expertise.	Technical assistance through ICRAF expert assignments, development of trial plots and demonstration plots
77	Facilitate application of social forestry	Sam Ratulangi University	The application of social forestry is very limited in the Tondano watershed because the amount of suitable forest is very limited. There is around 30 hectares of encroached forest that has been recommended for a social forestry application.	Financial assistance to manage the social forestry project and at the same time develop social forestry expertise would be useful exercise.

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
78	Monitor and evaluate social forestry	Sam Ratulangi University	The monitoring and evaluation of social forestry would necessarily be included in the above task, and would require no specific capacity building to develop.	Task 77
79	Gather data in the field	Sub-Dishut Minahasa Branch office	There is no existing capacity for this task.	Task 5, Develop through standardization of data gathering forms and on the job training
80	Provide information in the field	Sub-Dishut Minahasa Branch Office	This function is currently limited to "word of mouth" communications and the knowledge of the field worker.	Task 5, Supply information about local forest conditions, and conservation through leaflets and Message Board. Regular dissemination of information to cadres
81	Deter potential criminal activities	Sub-Dishut Minahasa/Jagawana	The image of the forestry police has been seriously damaged by the recent political problems in Indonesia. It is likely that the locals consider them as not applying the law equally to all concerned.	Work closer with the community and village cadres to develop a credible forest patrol capacity. Improve communications with community by working together on border and trail maintenance. Integrated patrol capability. Community report to patrols about suspicious activities.
82	Enforce the law	Sub-Dishut Minahasa/Jagawana	General lack of credibility	Increase communication with community, establish visible and credible high profile horseback patrols
83	Manage forest patrols	Sub-Dishut Minahasa/Jagawana	Operational funding. The fact that this office has employed temporary and contract patrol officers.	Ensure operational funding sufficient, and transport resources, uniforms etc. are supplied
84	Patrol forest boundaries	Sub-Dishut Minahasa/Jagawana	Lack of appropriate transport, boundaries not reliably marked	Supply horses and training to patrolmen through supply contract with local community. Use trails regularly (12 horses and 6 two person patrol teams)
85	Patrol forests	Sub-Dishut Minahasa/Jagawana	Lack of appropriate transport, trails in bad condition	As in Task 84
86	Prevent further encroachment	Sub-Dishut Minahasa/Jagawana	All above mentioned problems in task 89 to 93.	Combination of measures for tasks 89-93 and welfare improvements through productivity increase and involvement in development
87	Provide nursery extension services in the field	Dishut Minahasa	At present no capacity exists due to lack of staff to effectively cover the need	Train and deploy a group of village cadres (2 per village or around 120)
88	Provide technical extension services about agro-forestry in the field	Dishut Minahasa	At present no capacity exists	Task 87

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
89	Construct boundary indicators	Village Community (encroachers)	Simple construction skills, finance	Provide funding and training and extension services in the field through village development cadres Standards from central office. Village community proposal development process.
90	Construct trails	Village Community (encroachers)	Finance and accurate location of trails, need standards	Provide training and extension services in the field through village development cadres. Develop local standards
91	Construction of physical measures	Dishut Minahasa	Engineering supervision	Recruit and train 2 engineering staff Improve the physical measures engineering management and supervision capacity at district office level. District office to implement and manage physical measures construction with priority to employ village labor (initially this component will be implemented under the supervision of technical assistance and institutional capacity development).
92	Establish nursery systems	Village Community (general)	Nursery skills	Task 93, and provide financial support to village institutions to develop nurseries through village proposal/tender process.
93	Identify priority projects in cooperation with facilitators	Village Community (general)	Availability of facilitators and skills	Village cadres and NGOs as facilitators, train selected NGO staff along with cadres
94	Implement projects in cooperation with donors	Village Community (general)	Project management/ budgeting skills	Village groups to submit proposals for work in priority areas as stipulated in the master plan. (boundary and trail maintenance, nursery, agro-forestry development, physical measures etc.)
95	Preparation of Proposals for construction of physical measures	Village Community (general)	No formal engineering skills to be used in the proposal development, only identification	Develop identification skills through cadre extension services. Requests for facilities sent to district office. Dishut Minahasa Manage and implement construction using village labour
96	Preparation of Proposals for rehabilitation and conservation	Village Community (general)	No formal proposal development skills	As part of the institutional capacity development process, develop guidelines, and technical manual for the proposal process involving the Village Government, village cadres, government officials from district and province offices
97	Provide appropriate transport for patrols	Village Community (general)	Horses are an important form of transport in Minahasa, and there is a well developed horse culture	Exploit the capacity for forest patrols. This is a local appropriate technology product. Patrolmen have indicated that this is the only appropriate form of transport
98	Provide information on village conditions	Village Community (general)	Lack of village level annual land use, and cropping patterns, socio economic statistics etc.	Collect village statistics. Access annual data from BPS Agricultural Survey. General Village Background data from 2000 census. Establish village mapping, provide village data to Dishut North Sulawesi
99	Provide temporary extension workers	Village	No capacity gaps envisaged	Recruit and train temporary village cadres to act as the foundation nucleus of a village conservation group. After training they are to be deployed in the field on an ad hoc basis, they are to be paid according to an agreed standard rates while employed on project basis.

Attachment-I.1 Table of Capacity Gaps

No.	Task	Responsible Institution/Party	Capacity Gaps	Capacity Building Measures
100	Monitor evaluate and report on projects	Village/NGO/Dishut Minahasa in partnership	All of the abovementioned gaps with regard to district office, villages and NGOs	The development of the Information system. This will provide the initial outline for monitoring purposes with a mapped area of project coverage, in GIS including development targets, current development progress etc. according to location. Maps can be provided of all activities, and the Village and NGOs will work together to verify the progress and monitor activities. Include NGO staff in IT training and provide computer to participating NGO. Head office.
101	Integrate activities between institutions with an interest in Tondano watershed conservation	Watershed Conservation Committee	Current misunderstanding of role of watershed management, underdeveloped information systems, lack of interesting and informative materials at meetings	Information systems developments, development of watershed management capacity at University of Manado. Research of current issues and presentation at quarterly meeting attended by stakeholders including local business leaders, village community and government representatives, provide funding and transport for meetings during project implementation period.
102	Integrate government activities	All government services stakeholders	Non existent	Informal quarterly meetings to eliminate overlap of government projects and activities

Assumptions:

- 1 *The current province level staff will be assigned similar positions in the new province structure.*
- 2 *The BRLKT staff will be assigned to the Office of Land Rehabilitation and Seedling Development*
- 3 *There will be an oversupply of personnel after decentralization*

Attachment-I.2
Organizations Involved in
Tondano Watershed Conservation

Attachment I-2 Organization Involved in Tondano Watershed Conservation

- 1) Dishut Minahasa (Finance Section)
- 2) Dishut Minahasa (Human resources section)
- 3) Dishut Minahasa (Program Sub Section)
- 4) Dishut Minahasa (Technical Guidance and Land Conservation Section)
- 5) Dishut North Sulawesi (Data Gathering and Management Section)
- 6) Dishut North Sulawesi (Evaluation and Reporting Section)
- 7) Dishut North Sulawesi (Forest Inventory Section)
- 8) Dishut North Sulawesi (Forest Protection Section)
- 9) Dishut North Sulawesi (Office of Forest Spatial Planning)
- 10) Dishut North Sulawesi (Information and Procedures Sub Division)
- 11) Dishut North Sulawesi (Office of Land Rehabilitation and Seedling Development)
- 12) Dishut North Sulawesi (Sub Dinas of Program Organization)
- 13) Dishut North Sulawesi (Watershed Management Section)
- 14) Office of Governor
- 15) Office of Bupati
- 16) Office of Walikota
- 17) Kantor Camat (Office of Sub-District Head)
- 18) Forestry Training Center Makassar/ Watershed Management Technology Research and Development Center
- 19) NGO FKPSDA (The Natural Resources Conservation Group)
- 20) Sam Ratulangi University
- 21) Senior Secondary Schools /OSIS
- 22) Sub Dishut Minahasa/RPH/CDK
- 23) Sub-Dishut Minahasa/ Jagawana
- 24) University of Manado
- 25) Village Community (encroachers)
- 26) Village Community (general)
- 27) Watershed Conservation Committee
- 28) Government Integration Forum
- 29) NGO Manguni
- 30) Village Government

Note: Dishut = Dinas Kehutanan or Forestry Services

Attachment-I.3

Tentative Development Schedule

Attachment-I.3 Tentative Development Schedule

[illegible]

Attachment-I.4

Revised Material Requirements

Attachment-I.4 Revised Equipment Needs for Institutional Development

Equipment Needs for Institutional Development	
Item	No.
Province Forestry Office	
Local Area Network/Intranet and accessories	1
Server	1
Computer	7
Computer (GIS/CAD)	1
Printer Laserjet	1
Color Deskjet	1
Printer Large (A3) color dsekjet	1
Business Software	7
Statistic Software	1
GIS Software	1
CAD Software	1
Publishing Software	1
Car	2
Motorcycle	1
District Forestry Office	
Computer	2
Computer (GIS/CAD)	1
Color Deskjet	1
Office Furniture (Desk & Chair)	36
Car/Pickup	1
Motorcycle	2
Business Software	2
CAD Software	1
GIS Software	1
Library Development	1
Book Rack	1
Map Cupboard	1
Branch Forestry Offices	
Typewriter	3
Telephone Installation	3
Motorcycle	3
Accurate Maps (Laminated)	10
Office furniture (Desk and Chair)	3
Filing Cabinet	3
Equipment sets	7
Uniforms	7
Maintenance	7
University of Manado	
Library Development	1
Computer (GIS/CAD)	2
GIS Software	1
GPS Base Station (Trimble)	1
GPS Backpack Unit (Trimble)	1
Map Cupboard	1
Map set	1
NGO FKPSA/Manguni	
Car	1
Computer	1
Office furniture	2
Printer (with cheap cartridge) "ribbon"	1

Attachment-I.5

List of Institutional Development Activities

Attachment-I.5 Institutional Development Activities

(1) Community Institutional Development Activities

The required activities in this development are:

- To prepare minimum requirements for village cadre selection,
- To prepare and apply village cadre recruiting procedure,
- To select first generation of village cadres and NGO members to attend training programs as well,
- To prepare and apply village cadre introductory program,
- To develop village cadre human resource management capacity in relevant government office (forestry services) and a village level proposal process,
- To prepare guidelines and technical manual for proposal development
- To train local village communities based on technical manual & guidelines,
- To prepare guidelines for proposal selection,
- To facilitate project proposal process in selected villages,
- To deploy extension workers in the field,
- To promote the project process,
- To implement village proposal process for nursery development, proper farming practices, physical measures construction, and agroforestry development,
- To prepare ongoing proposal preparation selection, funding process, and implementation.

(2) Technical Institutional Development Activities

The proposed activities are:

- To develop physical measures construction training for extension workers,
- To establish agroforestry research and development capacity (AFRDC),
- To prepare facility,
- To recruit consultants,
- To prepare research programs,
- To implement research programs,
- To prepare annual reports and recommendations,
- To establish and maintain demonstration plots,
- To prepare modules for village cadre training center,
- To appoint village cadre training center (VCTC)
- To prepare facility, uniforms and kits,
- To prepare basic programs such as agroforestry, environmental and watershed awareness, priority project identification, proper farming practices, physical measures construction, and project management,
- To begin village cadre induction and orientation,
- To provide uniforms and kits,

- To apply basic extension cadre training program,
- To strengthen village cadre training center (receive updated modules, recommendations from AFRDC)
- To prepare advanced agro forestry extension worker training program
- To apply basic extension cadre training program for new recruits
- To apply advanced extension cadre training program (physical measures, proper farming, and agroforestry)

(3) Institutional Development of Forestry Services

The required activities for institutional development of forestry services are largely divided into those for Information Systems Development I at district level, Information Systems Development II at province level, and General capacity strengthening. The following list shows the required activities at respective levels.

District

- Establish Office in District Structure
- Engage Institutional Development and Information Systems Consultant
- Consultant Preparations
- Install Computers and Related Hardware in District Office
- Install Software in District Office
- Select Staff for Training
- Select Training Contractor
- Computer Operation Training I (Basic Computer Operation)
- Computer Operation Training II (MS Office)
- Computer Operation Training III (Data Base & Data Processing)
- Computer Operation Training (Advanced)
- Research and Identify Routine Data Gathering Points
- Install Data Gathering Equipment and Facilities
- Develop Simple Watershed Database
- Develop Standard Data Forms for Branch Offices
- Training for Branch Staff
- Develop Standardized Project Monitoring and Evaluation Forms
- Train Staff in Differential GPS Operation
- Deploy Branch and Forest Boundary Management Staff
- Gather data
- Design Input Data Screen Form
- Data Coding
- Data Entry
- Forward Data to District Office
- Descriptive Analysis and Report Writing Training I
- Descriptive Analysis and Report Writing Workshop I

Province

- Engage Database and Computer Communications Specialist
- Install Computers and Related Hardware in Province Office

- Install Software in Province Office
- Install LAN
- Design Website with IT Staff
- Select Staff for General Training
- Install Watershed Database
- Computer Operation Training I (Basic Computer Operation)
- Computer Operation Training II (MS Office)
- Computer Operation Training III (Data Base & Data Processing)
- Computer Operation Training IV (Desktop Publishing and Graphics Design)
- Descriptive Analysis and Report Writing Training I
- Descriptive Analysis and Report Writing Workshop I
- Develop Simple but Attractive Environmental Leaflet for Village Awareness
- Develop Posters (Environmental Awareness)
- Computer GIS Operation Training I (Mapinfo Ver.5.X) On the Job
- Train Staff in Differential GPS Operation on the job
- Develop Environmental Impact Signaling System
- Environmental Impact Signaling Report 1
- Environmental Impact Signaling Report 2
- General Real Time on the job training and coaching for information systems and product development in Province and District Offices

(4) Accurate Village Boundary Mapping Activities

The accurate village boundary mapping requires the following activities:

- Recruit survey and mapping consultant
- Consultant preparations
- Gather existing village boundary maps from Sub Districts and Department of Lands
- Develop standard approach for mapping village boundaries
- Organize meetings with all Sub District Heads for explaining objectives of village boundary mapping
- Use differential GPS to locate and establish village reference points
- Relate maps to natural and man made boundaries (streams, roads etc.)
- Establish boundaries through map and aerial photo interpretation on 1:10,000 maps
- Create village boundary layer in GIS
- Overlay village boundaries on zoning and problem maps
- Provide recommendations to Sub District and village about zoning needs

(5) Institutional Integration and Strengthening of Legal and Regulatory Framework Activities

The required activities for the institutional integration and strengthening of legal and regulatory framework are as follows:

- To revise laws and adapt regional regulations (Forestry/Social Forestry)
- To research and establish joint decree

- To establish Watershed Conservation Committee
- To establish forum for integration of government activities
- To establish revised organizational structure for forestry services

(6) Strengthening of Watershed Conservation Capacity at University of Manado

The following activities will be applied through a repetitive cycle, which will run through 7 revolutions, each time on a different but relevant current watershed management issue or topic. Results will be presented at watershed conservation committee meetings.

- To work with staff to strengthen the research capacity and supervise watershed program
- To work with university staff to select research topics
- To undertake research
- To present findings and recommendations to university
- To revise based on inputs if necessary
- To present final report to Watershed Conservation Committee
- To work with public relations and community information section to develop simplified report
- To translate simplified report
- To layout and prepare simplified report
- To disseminate simplified report to community

(7) Strengthening of local NGO

Local NGOs will be strengthened with technical assistance, training for members (same training as cadres) as field workers, and training for administrative staff (on the job) to produce reports and manage internal administration. A vehicle, computers and incentives are to be provided to active local NGOs who will take part in active facilitation and implementation of small village based projects.

Attachment-I.6

Development Personnel

Attachment I-6 Development Personnel

International Specialist for the Institutional Development

Personnel Required	Man-Months
Institutional Development and Information System	36.00
Environmental-Geographer	6.00
Agroforestry	3.75

Local Specialist for the Institutional Development

Personnel Required	Man-Months
Agroforestry	36.0
Project Management	12.0
Civil Engineer	24.0
Mapping and GIS	12.0
Mapping Assistant	8.0
Legal Specialist	12.0
Social/Environmental Researchers	56.0
Database & Computer Communication	12.0
Financial Management	12.0
Office Administration/Human Resource Management Specialist	12.0