



Ministry of Forests and Soil Conservation REDD Implementation Centre

Develop National Database of Basic Attributes of all Forest Management Regimes and Develop National REDD+ Information System or Registry

Contract No: (FCPF/REDD/S/QCBS-24)



NFD - NFIS Final Report

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List of Acronyms and Abbreviations

ANSAB	Asia Network for Sustainable Agriculture and Bio resources
BAU	Business as Usual Baseline
CCB	Country Capacity Building
CFUG	Community Forest User Groups(s)
DBMS	Database Management System
DFRS	Department of Forests Research and Survey
DFO	District Forest Officer
DOF	Department of Forests
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social and Safeguards System (ESS)
FAO	Food and Agricultural Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FECOFUN	Federation of Community Forestry Users Nepal
FRA	Forest Resources Assessment of Nepal Project
GHG	Greenhouse Gas Emissions
GIS	Geographic Information System
GPG	International Panel on Climate Change: Good Practice Guidance
ICIMOD	International Centre for Integrated Mountain Development
IPCC	Intergovernmental Panel on Climate Change
LCCS	Land Cover Classification System
MIS	Management Information System
MRV	Measuring, Reporting and Verifying
REDD	Reducing emissions from deforestation and forest degradation
REDD+	The REDD"+" is more than just avoided deforestation. It is tied to measurable and verifiable reduction of emissions from deforestation and forest degradation as well as sustainable management of forests, conservation of forest carbon stocks and enhancement of carbon stock
RL/REL	Reference Emission Level
UNFCCC	United Nations Framework Convention on Climate Change
WISDOM	Wood fuel Integrated Supply and Demand Overview Mapping
WWF	World Wildlife Fund

1. Introduction

1.1 Background

Nepal has prepared its REDD+ Readiness Preparation Proposal (R-PP). The implementation of the R-PP is being coordinated by the REDD-Forestry and Climate Change Cell under the MoFSC in close collaboration with multiple-stakeholders including other governmental institutions, NGOs, INGOs and Civil Society Organizations of which constitute a National REDD+ Working Group (RWG).

The Forest Carbon Partnership Facility (FCPF) (with the World Bank as its delivery partner) is supporting Nepal in its national efforts towards “REDD+ Readiness”. The objective of the Nepal Readiness Preparation Program is to prepare Nepal to engage in and benefit from the REDD+ program within the context of the international climate negotiations of the UN Framework Convention on Climate Change (UNFCCC).

1.2 Description of the assignment

Nepal is working on the REDD+ readiness and this entails developing a number of steps in order to get the Government of Nepal in a position to manage REDD + policies and activities. Over the past two years a number of steps have been completed and Agriconsulting supported one of these regarding the setting up of a pilot MRV.

The success of a national REDD+ program will depend much on a robust yet transparent information system that can link to relevant databases on carbon and other related social and environmental aspects.

A functional information system is crucial for monitoring and reporting on REDD+ program and activities at both national and international levels.

This Project is another step in completing REDD+ readiness and Agriconsulting and its JV partner Prompt Info-Solutions (now Geom Itech Pvt Ltd, Nepal) are ready to assist the REDD+ cell in developing this.

In this view, the present assignment envisages the creation of two complementary databases/information systems, namely:

- i. The National Forest Database (NFD); and
- ii. The National REDD+ Information System (National Forest Information System (NFIS))

The NFD will incorporate comprehensive data on themes related to forest resources, forest management, carbon stocks, forest users and REDD+ activities. Ideally the database should cover all forest types including community forests, collaborative forests, leasehold forests, national forests, government managed forests, forests under protected areas and buffer zones, private forests and religious forests.

The NFIS will provide necessary infrastructure, interface, tools and links to the NFD database as well as other external databases to provide user requested information necessary for exploration,

analysis, reporting and visualization on forest resources, carbon stocks and flows, management and users. A web-based information system will enable easy access and updating of data and information.

Although the current effort is focused on REDD+, NFD and NFIS will be valuable for the whole forestry sector with potential link to agriculture and land use planning in future.

1.3 The present document

The present document highlights the main findings of NFD-NFIS Project. It was purposely drafted as a synthetic document for the sake of brevity. Given the technical nature of the Project (mainly IT based), more specific details are discussed in the Technical Working Documents produced by the Project, namely:

S.N	Report Title	Author
1	Methodologies for calculating forest biomass and carbon contents for Nepal forests in the framework of NFD-NFIS.	W.A. Marzoli
2	A quick analysis of Carbon emissions Reference Level data produced by CAMCO Services in the framework of FCPF programme carried out by the REDD+ Implementation Center (MoFSC, Nepal)	W.A. Marzoli
3	Need Assessment of data acquisition from the field and reporting at the local, sub-national and national level in the forestry sector	P.R. Tamrakar
4	System Requirement Study Report	P. Jha & NFD NFIS Team
5	System Analysis and Design Report - Part 1	P. Jha
6	System Analysis and Design Report - Part 2	S. Rajbhandari
7	National Forest Database and Information System Architecture	S. Rajbhandari
8	Report on National Forest Database (NFD) for Pilot Region	S. Rajbhandari
9	System Design and Architecture Online GIS Platform	A. Dhakal G. Karki
10	User System Installation Manual - Online GIS Platform	A. Dhakal G. Karki
11	User Manual - Online GIS Platform	A. Dhakal G. Karki
12	NFD-NFIS Standard Operating Protocol (SOP), Operating Guidelines and User training manual	Mahesh Yadav

1.4 Project implementation

The Project started on December, 15th, 2014 and was intended to have duration of 6.5 months. In fact the original deadline was supposed to be June 30th, 2015. However due to the tragic events of the devastating earthquake which stroke Nepal on 25th April 2015 and successive aftershocks, the Project was extended until August 31th 2015 which is the current deadline. For this concession, the Agriconsulting Team wishes to thank the efforts done by REDD Implementation Center to make the extension possible.

As agreed during the negotiation phase, the Project was implemented as a joint venture of Agriconsulting, Italy and Prompt Info Solutions (now Geom Itech Pvt Ltd). In addition, the national team was complemented by the expertise provided by Tendyn Pvt. Ltd, regarding national IT Experts and Forest Biometrician

Summarizing, the main technical team composition was as follows:

Name of Expert	Role	Company
<u>Key Experts</u>		
Walter Antonio Marzoli	Forestry Expert - Team Leader	Agriconsulting S.p.A, Italy
Mahesh Yadav	Information Technology Expert - Deputy Team Leader	Geom Itech Pvt Ltd, Nepal
Saroj Sharma	Project Coordinator	Geom Itech Pvt Ltd, Nepal
Gehendra Karki	GIS Expert	Geom Itech Pvt Ltd, Nepal
Ashwin Dhakal	Web GIS Expert	Geom Itech Pvt Ltd, Nepal
Ray Dolendra	Programmer	Geom Itech Pvt Ltd, Nepal
Shrija Rajbhandari	Database Expert	Tendyn Pvt Ltd, Nepal
Pallawe Jha	Software Engineer	Tendyn Pvt Ltd, Nepal
Prayag Raj Tamrakar	Forest Biometrician	Tendyn Pvt Ltd, Nepal

Besides the Key Experts described above, various non-key Experts were contracted, as necessary supporting staff.

As a matter of fact the originally planned staff, as agreed in the Project negotiations, made of 2 field coordinators for the pilot (Western Region) data collection, was largely insufficient for the amount of work required. In total, 3 field coordinators were hired plus 6-8 data entry clerks. The data requirements and corresponding workload will be discussed in the next sections.

2. Methodological approach

2.1 Tabular data collection at national level

The first step was the consultation of all relevant stakeholders mainly inside the Ministry of Forest and Soil Conservation. A detailed description of the Institutions and individuals consulted is given in the Data Needs Assessment Report. As per our Terms of Reference, the data collection effort was concentrated on the following forest management regimes:

1. community forests,
2. collaborative forests,
3. leasehold forests,
4. government managed forests,
5. forests under protected areas and buffer zones,
6. private forests and
7. religious forests.

From the very beginning of the assignment it was clear that existing data were scarce and dispersed and that no coherent data structure was in place and that the effort for building the National Forest Database would be conspicuous.

In practice the only well-organized structure was obtained from the Department of Forests, regarding Community Forests. This consisted of an Access database with more than 18,000 individual records for as many Community Forests Users Groups. The CFUGs database was useful for making the backbone of NFD, given the paramount importance of Community forests as compared to other management regimes.

Regarding other management regimes, the information available was contained in some Excel sheets (for leasehold, collaborative, and protected forests), Access database (for Private forests) and Word files (for Buffer Zones forests). For government managed forests an Excel file with data on timber production, fuelwood and Non Timber Forest Products at District level was available for fiscal year 2071-72. Data for fiscal year 2069-70 were available only in pdf format and they were manually entered.

All these data sets were organized in the NFD database structure as described in the corresponding reports. The standardization work required a substantial amount of time since the majority of the datasets were not designed in a proper database format, and also numerous inconsistencies were encountered (e.g. non-standard coding of Districts, different spelling for the same VDC, coordinates errors, etc.).

During the Inception Phase, the Management Information System (MIS) of MoFSC was mentioned as one possible contribution to NFD and NFIS. In the early stages our Project contacted the person responsible for MIS at MoFSC. Unfortunately it turned out that a comprehensive MIS had in fact been designed, but, as far as we could verify, the MIS contains only the structure of the tables with no data. So it could be of little use for our purposes.

2.1.1 Major constraints

As already mentioned we encountered several constraints in our work, which can be summarized as follows:

- Limited data availability.
- Data not properly coded for the quick migration in a reliable relational database.
- A lot of data, especially for the pilot Region, available only in hard copies, which considerably slowed the data acquisition process.
- Problems related to language: many relevant documents were in Nepali language and needed to be translated, as English is the official language of the Project.

An additional constraint was represented by the general lack of structured input and outputs formats. With the remarkable exception of the Guidelines for data collection for Community Forests, which present a detailed review of data collection contents and formats, the requirements for other forest management regimes are very basic. An attempt to propose the recommended data collection formats for the future is presented in the Data Needs Assessment Report.

2.2 Spatial data collection at national level

Besides alphanumeric, tabular data, a significant effort was done to collect spatial data, as a necessary support for visualization and analysis.

This task has also benefitted from the work done during the implementation of the Project ‘*Development of a Measurement, Reporting and Verification (MRV) System for Emissions and Removals*’ - Contract No.: FCPF/REDD/S/QCBS-7, executed by Agriconsulting between June 2013 and March 2014. In particular a substantial amount of tabular and spatial data have been collected and organized in a geo-spatial database, including:

Administrative units (source: survey department)

- Development Regions
- Regional headquarters
- Districts
- Village Development Committees

Topography (source: ICIMOD)

- Topographic Grid
- Roads
- Rivers
- Airports
- Contour lines
- Spot height

Ecology and landscape

- Physiographic region (source: ICIMOD, Physiographic division of country into Terai, Siwalik, Hill, Middle Mountain and High Mountain)
- Digital Elevation Model (source: SRTM)
- Slope (source: SRTM)
- Precipitation (source: ICIMOD)
- Soil
- Geology
- Ecological zones (source: ICIMOD)
- National Parks and Reserves
- Potential vegetation types of Nepal (source TISC)

Socio-economic variables

- Population density and growth (at District and VDC level) (source: CBS)
- Settlements (source: ICIMOD)
- Average household size and distribution (source: CBS)

- Livestock
- Fuel wood and energy consumption
- Fuel wood and timber production
- Community Forests

Land cover and satellite imageries

- Global Land Cover (GLC) 2000 (FAO/ESA)
- Land Resource Mapping Project (LRMP) land cover map (1979, survey department)
- Forest cover of Terai 2010 (various sources)
- Data on 3 on land cover of Community Forests case studies of REDD project sites. i.e. three watershed (Kaayerkhola of Chitwan district, Ludhikhola of Gorkha district and Charanawoti of Dolakha district) (ICIMOD, ANSAB and FECOFUN)
- Rapid Eye satellite imageries (2010, source: FRA Nepal Project)
- Landsat satellite imageries (1990, 2000, 2010 source: REL Project)
- Forest cover of Terai and Siwaliks, 2010 (source DFRS)

2.3 Tabular data collection at sub-national level

As previously mentioned, besides the collection of tabular and statistical data at national level, the ToRs of the present assignment included the review and compilation of existing relevant data and information, including spatial data, from a selected pilot region (Western Region) and data entry into the database; and the development of a comprehensive integrated NFD for the pilot region using open source PostgreSQL/PostGIS Database.

As discussed, the Department of Forests made available their database with more than 18,000 records for CF. However such database contains only the general information part. The socio-economic information, and the typical forest information like growing stock, AAC are not included.

For this purpose the Project deployed initially two field coordinators, later on supplemented by a third one for visiting all Districts of the Western Region and collect relevant data. The field data collection was also supported by the Team Leader and the Forest Biometrician.

In this respect our Project had to face two major constraints:

1. The format for CF data collection, and in particular its Annex 15, which contains the input tables, was designed only early this year (we received a copy around March 2015, in Nepali language). So very few Districts have so far compiled new data in the updated format.
2. Nearly all Districts data are stored in the old format, which does not correspond to the new requirements, and are available only on paper, handwritten in Nepali language. Given that in the Western Region there are approximately 5,000 registered CFUGs, and that each individual form consists of 10-15 pages, the total amount of pages to be translated into English and then digitized would be of 50-75,000. Due to the time and staff allocated to our Project, this is not realistic, also considering that even in the case of

such an unprecedented effort, the data collected would have been in the old format, not compatible with the new database structure based on the new Annex 15 of CF Guidelines.

During the field visits it was also noticed that very valuable information including species composition, growing stock, forest regeneration status and GPS coordinates of the boundaries were contained in the Forest Operational Plans (FOP), periodically prepared or revised for each CF. Unfortunately also the FOPs were available only on paper (hard copies) or at the most in word or pdf formats, and needed to be digitized.

For this scope, Guidelines for field data collection were prepared and handed over to the field coordinators, instructing them to scan the relevant tables of the FOPs, including GPS coordinates and send them to the Project office in Kathmandu. This work generated several hundreds of pages to be manually digitized, including some 30,000 GPS coordinates. This important task was achieved by hiring 6-8 people for data entry and hundreds of man/hours of work were dedicated to that. In parallel the structure of Annex 15 of CF Guidelines was revised in the database to accommodate the FOPs data.

Specific data on socio-economic indicators such as impact of management programs, contribution to poverty alleviation, income generating activities, etc. were lacking. For this purpose our Project approached the Multi Stakeholders Forest Program (MSFP), in order to try to obtain the necessary indicators. This task was not straightforward, since the MSFP is still in the data collection phase, and data are available only for a few Districts. Moreover data collection is being implemented at decentralized level with the support of different NGOs. However, an effort was made in order to standardize and integrate such heterogeneous data in the NFD database. It is reminded here that, as agreed with the REDD Implementation Centre, our goal was to provide the structure and basic functionalities of the system, so that new data can be incorporated in future as they become available.

Similarly a basic structure for presenting the present status of Social and Environmental Safeguard (SES) criteria and indicators in Nepal is being developed. Also in this case the work is in progress, since the issue of SES is still debated in the international fora. The NFD-NFIS must provide a dynamic structure for updating and integrating SES criteria and indicators in future.

Moreover the structure of Annex 15 was also enhanced with suggestions made by the REDD Technical Working Group. In particular the following suggestions were integrated:

1. Include Environmental impacts such as Forest area changes both negative (deforestation, forest degradation) and positive (afforestation, reforestation, forest enhancement).
2. Provide formats for data inputs and reporting on biodiversity, ecosystem services and climate change adaptation.

2.4 Spatial data collection at sub-national level

Spatial data collection and handling has been perhaps the most successful implementation of NFD-NFIS Project.

In addition to a consistent and rich collection of spatial databases and maps, both in raster and vector formats, a considerable effort was made to comply with the requirements of integrating spatial boundaries of the forest management units. This proved to be quite time consuming since the management units tend to be small (a few hectares or less). For spatial boundaries, it was found that for the recent FOPs (of the last two to three years) GPS coordinates had been entered but not mapped (i.e. only raw coordinates were available, but no shape file or polygons generated), making the data difficult or impossible to use them in the present format. The process of digitizing and assigning the appropriate coordinate system in order to obtain 'clean' polygons was a major task. Besides the huge number of points, during the geo-referencing process it was found that quite a number of coordinates were incorrect, due to various reasons: e.g. miscoding of the numerical values, wrong definition of datum or projection system, etc. So that many points fell outside the District or in some cases even outside the country. A massive work of data cleaning was carried out by our Web-GIS expert.

The geo-referencing and mapping of forest managements units permit to overlay such boundaries to any additional spatial layer (vegetation maps, satellite imageries, ecological information, etc.) and to make tailor made thematic maps. The Web-GIS application provides the necessary tools for such operation using open source software at no additional cost.

Moreover data can be uploaded at sub-national level (District) and through simple operations visualized on the new map. This will allow the decentralized operators (DFOs, Rangers) to upload and verify immediately the boundaries of any forest management regime, but also to upload any other spatial layer which might be available at local level, for instance new plantations, encroached areas, forest fires, etc.

This will allow a major step forward in the enrichment of the knowledge of the dynamics of the forest resources at local, regional and national level.

3. Findings and recommendations

As discussed the implementation of the Project proved to be more difficult than expected. Major constraints were highlighted in Section 2.1.1.

In particular the lack of sufficient data in a suitable format slowed considerably data collection and integration. Also the forest management regimes in Nepal are heterogeneous and complex, and involve several actors at national, regional and local level, and dialogue between these actors is not always smooth.

Moreover, in our knowledge, the NFD-NFIS was the first implementation of such a complex application in Nepal, so that we had to do some pioneering work, and a culture of database creation and maintenance in the forestry sector in Nepal is in most cases in the early stages.

Another major issue is related to the information flow between local (mainly Districts) and Central level. It was noticed that often the information generated at District level does not reach the Central level (for instance FOP) or, if it does, it is not in a format that can be easily incorporated in a Central database. Thus it is necessary to improve the flow of information, and

to enhance the capacities especially at District level, where most of the information is generated. We understand that DFOs and Rangers have already many duties and cannot be further overloaded. A plan for capacity building and possibly hiring new personnel dedicated to database maintenance is a possible solution.

As anticipated the NFD-NFIS was a pioneering effort, and we hope that the momentum created can be sustained in future.

Annex 1: Review of input data for CF management regime

General information

1.1 Community Forest User Group Code No

1.2 Name and address of Community Forest User Group

1.2.1 Name

1.2.2 Address

District VDC/Municipality (can have more than 1 VDC)

Ward No (can have more than 1 ward and of more than 1 VDC)

1.3 Hand over date BS :

1.4 Operational Plan review/renewed date:

Forest Operational Plan Revision Number	Revision date
1	
2	
n	

1.5 Annual Report for fiscal year:

1.6 Details of Community Forests

1.6.1 Area (HA)

1.6.2 Estimated Growing Stock (in number of trees/pole)

1.6.3 Estimated Growth Rate (CUFT/HA)

1.6.4 Estimated Annual Allowable Cut (CUFT/HA)

1.6.5 Forest Type (check box)

Saal

Sallo

Mixed

Khayer/Sissoo

Others

1.6.6 Household number

1.6.7 Total Members in CFUG

Male	Female	Total

CFUG and committee's structural inclusiveness

2.1. Information of committee

Caste	Wealth Ranking				
	Poor	Medium	Wealthy	Total number of households by caste ranking	Remarks
Brahmin/Cheetri					
Janajati					
Dalit					
Others					
Total number of households by wealth ranking					

2.2. Number of Executives members in the committee

Caste	Chair-person	Co-Chair Person	Secretary	Co-Secretary	Treasurer	Members (Number)	Total Number
Brahmin/Cheetri							
Janajati							
Dalit							
Others							
Poor							
Female							
Grand total							

Institutional Development (Good Governance):

3.1 Transparency

General assembly

- i. Resuming times as set in the constitution: times
- ii. Number of times resumed: times

3.2 Participation

Community Forestry Users Executive Committee meeting

- i. Convening times as set in the constitution: times
- ii. Number of times resumed: times

3.3 Accountability

Public Audit (If the matter is discussed and/or approved, it can be considered done)

Yes No

Forest Resource Management related Activities

a. Forest Protection Activities

Forest Protection activity	Self-Discipline	Users' Participation	Forest Watcher	External Support	Remarks
Forest Product Theft and Smuggling Control					
Forest Fire Control					
Grazing Control					
Control over forest land encroachment					

4.2 Forest Management and Silviculture Activities

SN	Activities	Block No	Quantity	Expenses			Total (Rs)	Remarks
				CF Fund (Rs)	Users' participation (Man Days)	External Support (Rs)		
1	New nursery establishment maintenance (No)							
2	Seedling production (woody species) (No)							
3	Seedling production (non-woody species) (No)							
4	Barbed wire/live fencing (Km)							
5	Plantation (ha)							
6	Replacement plantation (No)							
7	Weeding (ha)							
8	Bush Cleaning (ha)							
9	Pruning (ha)							
10	Thinning (ha)							
11	Singling (ha)							
12	Regeneration management (ha)							
13	Demonstration plot establishment (ha)							
14	Herbal/Non Timber Forest Product Management (ha)							
15	Forest management system in practice (ha)							
16	Forest Road Construction/Maintenance (Km)							
17	Fire line Construction/Maintenance (ha)							
18	Soil conservation related activity (No)							
19	Wildlife protection and biodiversity conservation related activity (No)							
20	Others (No)							

4.2.1 Forest Product Production

SN	Forest Products	Unit	Annual Allowable Cut (AAC)	Produced Quantity			Total Produced Qty	Remarks
				Sylvicultural activities	Selective Thinning/marketing	Others		
1	Timber (Species)							
		Cft						
	Sal							
	Salla							
	Asna							
	Khair							
	Jamun							
	Chilaune							
	Katus							
	Utis							
	Sissoo							
	Karma							
	Kharsu							
	Others							
	Add new							
	Total							

2	Not Timber Forest Product	Unit	Annual Allowable Cut (AAC)	Total Quantity produced	Remarks
2.1	Fuelwood	Chatta / Bhari			
2.2	Fodder Grass	Bhari			
2.3	Bedding material	Bhari			
2.4	Medicinal herbs	Kg			
2.5	Resin	Kg			
2.5	Other Non-Wood Forest Product	Kg			
3	Others	Kg			

4.2.2 Forest Product Sales and Distribution

SN	Forest Products	Unit	Sales Inside CFUG		Sales Outside CFUG		Total sales		Qty of Stock Remaining	Remarks
			Quantity	Amount (Rs)	Quantity	Amount (Rs)	Quantity	Total Revenue Generated (Rs)		
1	Timber species	Cft								
	Sal									
	Salla									
	Asna									
	Khair									
	Jamun									
	Chilaune									
	Katus									
	Utis									
	Sissoo									
	Karma									
	Kharsu									
	Others									
	Total									

2	Non Timber Forest Products	Unit	Sales Inside CFUG		Sales Outside CFUG		Total sales		Qty of Stock Remaining	Remarks
			Quantity	Amount (Rs)	Quantity	Amount (Rs)	Quantity	Total Revenue Generated (Rs)		
2.1	Firewood	Chatta / Bhari								
2.2	Fodder Grass	Bhari								
2.3	Bedding material	Bhari								
2.4	Medicinal herbs	Kg								
2.5	Resin	Kg								
2.5	Other Non-Wood Forest Product	Kg								
3	Others	Kg								

Community/Social Development Activities

SN	Activity	Unit	Quantity	Expenses from CF account (RS)	Users participation (Man Days)	External Support (Rs)	Total (Rs)	Remarks
1	Road Construction/ Maintenance	Km						
2	Bridge/culvert construction/ Maintenance	No						
3	Irrigation cannel/deep boring construction/Maintenance	No						
4	School Support Program	No						
5	Health sector Support	No						
6	Historical/Religious/Cultural Support	No						
7	Social welfare activity	No						
8	Electrification	Km						
9	Drinking water management/improvements	No						
10	Building construction	No						
11	Others	No						

Income Generation Activities

S.N.	Activities (No)	Quantity	Beneficiaries HH	Total Expenditures	Source of Expenditure		Name of External institutions
					CF Fund (Rs)	External Support (Rs)	
1	Employment Opportunity						
1.1	Wood Based Enterprise						
1.2	Non-Wood Based Enterprise						
1.3	Forest Development and Sylviculture						
1.4	Forest Conservation						
2	Income Generating Activities						
2.1	Medicinal Herbs Non Timber forest product farming						
2.2	Livestock Farming						
2.3	Cash Crop Farming						
2.4	Others						
3	Other Activities						

Capacity Building of Users Committee

SN	Activity (Training, workshop, study tour etc.)	Quantity	Beneficiaries		Total Expenses (NRs)	Source of Expenditure			Remarks
			Men	Women		CF Fund (Rs)	Government support	I/NGOS	
	Training, workshop, study tour, others)								

Income and expenses

8.1 Accounts details

Account number 1

Name and address of the Bank (where the account is)

Account number:

Type of account (mention if other than current account):

Name and post of Check Signatory

S.N.	Name of the signatory	Post
1		

Account number 2

Name and address of the Bank (where the account is)

Account number:

Type of account (mention if other than current account):

Name and post of Check Signatory

S.N.	Name of the signatory	Post
1		

8.2 Details of Income and Expenditure

Income		Expenditure	
Descriptions	Amount (Nrs)	Descriptions	Amount (Nrs)
Remaining cash from last year		Forest Protection Management and Development	
Bank Balance from Last year		Protection	
Last year investment in loan		Conservation and development	
Last year investment in Cooperative		Forest utilization	
Forest Product sales and Distribution		Alternative energy program (Bio gas, improved stove, etc.)	
Sales of Timber (within community)		Others	
Sales of Timber (outside community)		Community Development	
Sales of Firewood (within community)		Road and bridge-culvert construction/maintenance	
Sales of Firewood (outside community)		Drinking water related activities	
Sales of Medicinal Herbs and NTFP		Electricity related activities	
Medicinal Herbs		Irrigation related activities (canal, deep boring repair/maintenance)	
Resin		School support program	
Thatching, broom and other grasses		Health sector support program	
Others		Others	
Miscellaneous fees and grants/prizes		Institutional development and administrative expenses	
Membership/Renewal/Entrance Fees		Training, workshop, Study tours	
Prizes		Salary and allowances	
Grants		Building/furniture	
Penalties		Stationary	

Income	
Environmental services payment (Drinking water sources, Irrigation, etc.)	
Eco-Tourism	
Interest from this fiscal year	
Others (including recovery of dues)	
Total Income	

Expenditure	
Other administrative and miscellaneous expenses	
Poverty reduction activities (Strengthen/capacitate Women, Dalit and Poor)	
Income generating and Skill based activities	
Financial donation/support	
Status of the Fund	
Investment in cooperatives	
Loan investment	
Bank balance	
Cash balance	
Total Expenses	

Monitoring and Supervision

Description	Number
A) How many times did the DFO monitored and supervised CFUG?	
B) How many times did the stakeholder institutions visited and discussed with the CFUG?	
C) Visits made by other institutions?	

Miscellaneous

Description	Remarks
Details of any Prizes/Awards received by CFUG	
Others	

Environmental impacts

11.1 Forest area changes (deforestation , forest degradation, reforestation)

A. Negative changes

Deforestation due to	Affected area (ha)	Remarks
Encroachment		
Forest fires		
Landslides		
Infrastructure building		
Other		
Total		
Forest degradation due to		
Illegal logging		
Fuelwood over-exploitation		
Over-grazing		
Forest fire		
Other		
Total		

B. Positive changes

Afforestation/Reforestation	Affected area (ha)	Remarks
Native species		
Exotic species		
Other		
Total		
Forest amelioration		
Enrichment planting		
Natural regeneration management		
Other		
Total		

11.2 Biodiversity, ecosystem services and climate change adaptation

11.2.1 Wildlife status

SN	Name of wildlife	Status of wildlife			Remarks
		Increased	Decreased	Static	
1					
2					
3					
4					
5					

11.2.2 Biodiversity status

Assess the status of biodiversity in the area and the changes occurred since the time of handover

	High	Medium	Low	Changes occurred since time of handover	Description
Status of biodiversity in the CF area					

11.2.3 Ecosystem services

Describe the main ecosystem services provided by the CF management (e.g. water supply, erosion control, watershed management, indigenous and local culture preservation and support, among others)

Type of ecosystem service	Description

11.2.4 Climate change adaptation measures adopted

If any (e.g. measures adopted against the risks of drought, flooding, fires, pest and diseases and others)

Climate change adaptation measures implemented	Description

11.3 Conflicts

11.3.1 Human and livestock wildlife conflicts

SN	Name of wildlife	Human Wildlife Conflict			Livestock Wildlife Conflict		
		Injured	Death	Remarks	Injured	Death	Remarks
1							
2							
3							
4							
5							

11.3.2 Forest Offences:

No of Forest Offence	No of Case registered in DFO	No of Case registered in District Court	No of Case decided by DFO	No of Case settled within the Community	No of Case decided by District Court	No of Case in Appeal court	No of Forest Offender		No of Wildlife offence
							Male	Female	

Author

Prepared by

Chair Person

Name

Name

Date

Date

Regeneration status

Species	Seedling / Ha	Sapling/Ha	Regeneration status	Remarks

Demand and Supply situation of forest products:

SN	Name of forest product	Total demand		Supply situation		Status		Alternative supply sources
		Unit	Quantity	Community Forest	Private forest	Sufficient	Insufficient	
1	Timber	Cft						
2	Firewood	Chatta /Bhari						
3	Grass, bedding material	Bhari						

Species composition analysis

S.N.	Species	Pole/Ha	Composi- tion %	Trees/Ha	Composition %	Remarks
	Sal					
	Salla					
	Asna					
	Khair					
	Jamun					
	Chilaune					
	Katus					
	Utis					
	Sissoo					
	Karma					
	Kharsu					
	Others					

Growing Stock Analysis

S. N.	Species	Number of Seedling per ha	Number of Sapling/ha	Number of Pole/ha	Trees /ha	Stem volume- m3/ha			Stem volume- cft/ha		
						Trees	Pole	Total	Trees	Pole	Total
1	Sal										
	Salla										
	Asna										
	Khair										
	Jamun										
	Chilaune										
	Katus										
	Utis										
	Sissoo										
	Karma										
	Kharsu										
	Others										

Total Growing Stock, Forest Biomass and Carbon Content

Nominal CFUG area (ha)	Actual CFUG forest area (ha)	Average growing stock per ha (m3/ha)	Total growing stock (m3)	Total Above ground biomass (Mg)	Total aboveground carbon content (Mg)	Total below ground Carbon content (Mg)	Grand Total carbon content (above + below ground)

Forest inventory data

18.1 Block area

Forest inventory block number	Forest inventory block area (ha)
1	
2	
3	
4	

18.2 Forest inventory data sheet

Block N.	Plot N.	SN	Species code	Species	Regeneration (counting)	Sapling	Pole dbh (cm)	Pole Height (m)	Tree dbh (cm)	Tree Height (m)	Remarks
				Sal							
				Khair							
				Sissoo							
				Asna							
				Karma							
				Jamun							
				Chilaune							
				Katus							
				Utis							
				Kharsu							
				Salla							
				Other							

Annex 2: Report requirements for Community Forests

Reporting levels:

Single CFUG (Annex 15 Tables for one CF)	By District (all CFUGs)	By District (aggregated values)	By Development Region (aggregated values)	By Physiographic Region (aggregated values)	National (aggregated values)
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List of Reports requirements

1. General information	2. Social profile	3. Economy and finance	4. Forests and forestry	5. Environmental impacts
1.1 General information	2.1 Well-being and caste/ethnicity status	3.1 Income generation activities, including pro-poor and gender related activities.	4.1 Status of Forest Operational Plan	5.1 Forest area changes (deforestation, forest degradation, reforestation)
	2.1.1 Membership composition	3.2 Details of income and expenses	4.2 Forest inventory	5.2 Biodiversity, ecosystem services and climate change adaptation
	2.1.2 Executive committee composition		4.2.1 Forest composition	5.3 Conflicts and offences
	2.2 Gender		4.2.2 Total growing stock	
	2.1.1 Membership and executive committee composition by gender		4.2.3 Growing stock by species	
	2.3 Governance		4.2.4 Forest biomass and carbon contents	
	2.4 Social development activities		4.2.5 Regeneration status	
			4.3 Forest protection	

1. General information	2. Social profile	3. Economy and finance	4. Forests and forestry	5. Environmental impacts
	2.5 Training and capacity building		4.4 Forest management and silviculture	
			4.5 Forest production and sales	
			4.5.1 Forest products production	
			4.5.2 Forest products sale	