



Annual Review RNRSP

Assessment of Sector Policy and Programme Implementation & Validation of Performance Assessment Framework

Final Report

November 2011

Renewable Natural Resources Sector Programme
Ministry of Agriculture and Forestry
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Bhutan Renewable Natural Resources Sector Programme

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DISCLAIMER

The EC RNRSP mission has prepared this document and the views expressed herein are those of the Consultant. Such views do not necessarily reflect those of the European Commission or of the Royal Government of Bhutan.

ABBREVIATIONS AND ACRONYMS

\$	Dollar
€	Euro
ABSD	Accelerated Bhutan Socio-Economic Development (a Prime Minister's initiative post-MTR)
ADB	Asian Development Bank
ADITI	A Third Party Indian Certification Agency (for organic produce export)
AFD	Administration and Finance Division
AMC	Agricultural Machinery Centre
ASSP	Agriculture Sector Support Programme (EU project ending in December 2011)
BAFRA	Bhutan Agriculture & Food Regulatory Authority
BCSR	Bhutan Civil Service Rules
BISP	Breeding and Input Supply Programme
BTFEC	Bhutan Trust Fund for Environmental Conservation
BTN	Bhutanese Ngultrum
CC	Community Centres
CHF	Swiss Franc
CORRB	Council for Renewable Natural Resources Research of Bhutan
CountrySTAT	Website used for storing trends in RNR statistics by MOAF
CSPro	Software used for storing and processing Agricultural Statistics data at DOA
DANIDA	Danish International Development Assistance
DDD	Dairy Development Division
DKK	Danish Kroner
DOA	Department of Agriculture
DOAMC	Department of Agricultural Marketing and Co-operatives
DOFPS	Department of Forestry and Park Services
DOL	Department of Livestock
DPO	Dzongkhag Planning Officer
Dzongkhag	District, the administrative level above the Gewog
EC	European Commission
EU	European Union
EuropeAid	EC development aid department in Brussels
FA	Financing Agreement
FAO	Food and Agriculture Organisation of the United Nations
FIDS	Forestry Information Database System
FIMS	Forestry Information Management System
FRDD	Forest Resources Development Division
FYP	Five Year Plan
GBS	General Budget Support
GEF	Global Environment Fund
Gewog	Block of villages, the lowest administrative level
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
GOI	Government of India
FHH	Farming Household
HELVETAS	Swiss Development Agency
HR	Human Resources
HRD	Human Resources Development
HRMD	Human Resources Management Division
ICIMOD	International Centre for Integrated Mountain Development
ICS	Information and Communication Services

IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
IMS	Information Management Section
IT	Information Technology
JAR	Joint Annual Review
JICA	Japan International Cooperation Agency
LCMP	Land Cover Mapping Programme
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MIS	Management Information System
MOA/01	Programme number in 10th FYP under Ministry of Agriculture and Forests
MOAF	Ministry of Agriculture and Forests
M(O)EA	Ministry of Economic Affairs
MOF	Ministry of Finance
MOHCA	Ministry of Home and Cultural Affairs
MOIC	Ministry of Information and Communication
MOWHS	Ministry of Works and Human Settlement
MT	Metric Ton
MTR	Mid Term Review
MYRB	Multi Year Rolling Budget
NBC	National Biodiversity Centre
NEC	National Environment Commission
NOP	National Organic Programme
NRTI	Natural Resources Training Institute
NSB	National Statistics Bureau
NWFP	Non Wood Forest Products
OGTP	'One Geog - Three Products'
OSFS	One Stop Farmers' Shop
PAF	Performance Assessment Framework (set of indicators for triggering budget release)
PEFA	Public Expenditure and Financial Accountability
PEMS	Public Expenditure Management System
PEPS	Policy and Economic Planning Section (in PPD)
PFM	Public Financial Management
PGS	Participatory Guarantee System (proposed organic certification system domestic market)
PIS	Personnel Information System
PlaMS	Planning and Monitoring System
PPD	Policy and Planning Division
QA	Quality Assessment
RBM	Results Based Monitoring
RDTC	Rural Development Training Centre
RGOB	Royal Government of Bhutan
RNR	Renewable Natural Resources
RNRSP	Renewable Natural Resources Sector Programme
SBS	Sector Budget Support
SLGSP	Support to Local Government Support Programme
SLSP	Support to Livestock Sector Project
SMART	Performance Indicator Mnemonic = <i>Specific, Measurable, Accurate, Realistic, Time-bound</i>
SPSP	Sector Policy Support Programme
TOR	Terms of Reference
TOT	Training of Trainers
UN	United Nations

UNDP	United Nations Development Programme
WB	World Bank
WMD	Watershed Management Division
WWF	World Wildlife Fund

PREFACE

This comprehensive report has been compiled by a Rural Development Expert who spent the period from 8th September to 5th October 2011 in Bhutan. The main aims of the report are to provide a current review of the Renewable Natural Resources (RNR) policy and strategic framework in Bhutan and to assess any changes since both the formulation (by the European Commission) of the RNR Sector Programme (RNRSP) in April 2010 and the Government's Mid Term Review (MTR) for the 10th Five Year Plan (FYP) in June 2010. The report assesses progress with implementation since the MTR and also validated the Performance Assessment Framework (PAF) described in the Financing Agreement (FA).

The main tasks to be covered during the mission were as follows: (i) To describe the history and role of the RNR concept in Bhutan, including EU support to the RNR sector; (ii) To assess the latest developments in the RNR sector; (iii) To assess (if any) the impact of the Mid Term Review of the RNR 10th FYP on the EU-funded RNR Sector Programme; (iv) To provide a quality assessment of RNR statistics in Bhutan and their usefulness for monitoring the PAF indicators; (v) To assess the current status of the monitoring and evaluation processes within the MOAF (including the roll-out of the National Planning and Monitoring System known as PlaMs); (vi) To validate the PAF in the FA and (where needed) to make it more clear, measurable, accurate and reliable; (vii) To assess RNRSP/RGOB progress so far towards achieving the results defined in the PAF; (viii) To establish the indicator data that will serve as the baseline for future progress assessment; and (ix) To assess the current status with regard to institutional progress with indicators mentioned in the Special conditions defined for the variable tranches in the FA.

The findings were needed to enable the EC Delegation to Bhutan to release the first Fixed Tranche under the sector budget support to Bhutan as defined in the FA to the RNRSP.

For further information regarding the process for assessing the policy and strategic framework for the 10th FYP in Bhutan and for validation of the Performance Assessment Framework (PAF) for the Renewable Natural Resources Sector Programme -Bhutan contact:

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17 October 2011

EXECUTIVE SUMMARY

1. Mission Key Objectives:

- To assess any **changes in RNR Sector Policies and Strategic Framework** since the MTR in 2010, and their possible effects on the RNR Sector Programme funded through EU.
- To assess **progress with the institutional setting** and existing capacity indicators both of which are part of the Special Conditions for release of variable tranches in 2012 and 2113 under the RNRSP.
- To **validate the Performance Assessment Framework** (known as PAF) in the Financing Agreement of April 2011, and make suggestions for adjustment where needed in order to make the PAF more SMART.
- To assist the PPD at MOAF in developing a set of **simple monitoring tools** to be used for reporting at the Joint Annual Review Mission for RNRSP (expected in August/September in years 2012, 2013, and 2014) and that will assist in the release of Fixed and Variable Tranches in 2011, 2012 and 2013, and that correlate the PAF where possible with the PlaMS annual reporting format for indicators that already appear there.

2. Background Features of RNR Sector Programme Support (2011-2014):

- A total of **€5.6 million of EC grant funding** has been allocated over a three year period; €2.1 million of Fixed Tranche is committed for the 10th FYP year 2011-2012.
- The RNRSP is expected to focus on **nine policy areas** (detailed in the PAF) whilst working with nine Focal Points within MOAF who will be responsible for managing the resources provided through the RNR sector budget support.

3. Future Funding Situation:

- A **Fixed Tranche** of €1.05 million and a **Variable Tranche** of €0.7 million will be released in each of the following years: 2012-2013 and 2013-2014; based on criteria set in the Financing Agreement.
- The Tranches will be **released based on the RNR sector meeting the targets** set under the PAF and meeting the Special Conditions as mentioned in the Financing Agreement.

4. Policy Review and Implementation under 10th FYP:

- A review of the 10th FYP and the MTR of 2010 has shown that there are **no major policy changes** affecting the Financing Agreement between RGOB and EU, and this has been confirmed by the GNHC focal point for the RNR sector and the Secretary at MOAF. However, the impact of the shifts in RNR policy emphasis grounded in the Accelerating Bhutanese Socio-Economic Development (ABSD) initiative of the Prime Minister's Office needs to be regularly monitored.
- The **merging of the Agricultural Marketing Services with the Cooperative Programme** to form the Department of Agricultural Marketing and Cooperatives

under MOAF is a major new reorganisation; however this should improve the management of the One-Stop Farmers' Shops (OSFS) activities that are one of the indicators under the PAF in the RNR. The initiative in 2010 aimed at merging the OSFS with the Community Centres (CC) under the Ministry of Information and Communications needs to be monitored, although it appears that the MOAF will go its own way since the objectives of the two types of one-stop shop are totally different and not compatible.

- Focal points, appointed during this mission by PPD, for each of the 9 policy result areas, mentioned in the Performance Assessment Framework, need to clearly identify the **strategies required** to achieve the targets set in the new validated PAF of September 2011.
- Focal points for each of the 9 result areas mentioned in the Performance Assessment Framework are to be active in **allocating resources** in order to achieve the targets set for the performance indicators in the new PAF validated in September 2011.

5. **Institutional Setting and RNR Sector Capacity:**

- A RNR **government/donor coordination** committee is still to be established. A mandate, vision and TOR for the committee are to be prepared as soon as possible.
- The **National Planning and Monitoring System** (PlaMS) has been successfully launched and is only partially functioning at MOAF; however, refresher training is required for all concerned staff in the RNR Departments, Divisions, Centres and IMS. Focussing on feed-back about PlaMS implementation issues, and how to improve the system. The findings should be forwarded to GNHC for their attention prior to start of the 11th FYP.
- The TOR for the **Human Resources Development** (HRD) study needs to be finalised and a detailed budget prepared. The full proposal to be sent to PPD and the Ministry for approval as soon as possible. The study should be completed before May 2012; in time for the first full Joint Annual Review Meeting between RGOB and EU.
- A Ministry **Training Plan** should be prepared based on the HRD study and be under implementation by June 2012; in time for the Joint Annual Review Meeting between RGOB and EU.
- An **organisational restructuring plan** for the MOAF should be completed by June 2012 to enable the RNR organisational set-up to be more relevant, efficient, effective, and providing greater impact at the local level; in time for the Joint Annual Review Meeting between RGOB and EU.
- **Climate change integration** into the 11th FYP should be well under way with target indicators in place across all Departments, Divisions and Centres in the MOAF by June 2012; in time for the start of the new EU sector support programme on Climate Change Adaptation.

6. **Performance Monitoring:**

- The **Performance Assessment Framework** (PAF) in the Financing Agreement (FA) to the RNRSP has been validated in order to make the indicators better defined, more accurate and more reliable to fit their purpose in triggering budget releases during Joint Annual Reviews between RGOB and EU.
- A revised **Appendix 1 to the FA** has been prepared for consideration by the EU.
- Two **monitoring tools for the PAF indicators** have been prepared: a *Summary Annual PAF Reporting Sheet* and nine *Indicator Technical Fiches*, one for each PAF indicator. These tools, when up-dated annually, can be used to promote dialogue during the Joint Annual Review for RNRSP, leading to the triggering of budget releases.
- Five of the indicators in PAF require **reliable statistical survey data** in order to track trends using the *Annual Agricultural Survey* and the *Annual Livestock Census*. In order to improve statistics quality and data management there will be a need to: (i) increase staffing levels at the PPD and each of IMS under DOA, DOL, DOFPS, and DAMC; (ii) provide training to staff at PPD and IMS in statistics, questionnaire formulation, data management, and programming through a 1 month overseas training course; and (iii) provide annual/ bi-annual central training to all RNR staff at Gewog and Dzongkhag levels who are involved in enumeration of data for agriculture, livestock and forestry and to sensitise them in the importance of accurate data collection.
- Provision for **funding a forest/land cover survey** to be based on use of ALOS (10 meter resolution) and Quick Bird (1 meter resolution) in sample/control areas from 2011 and 2012 winter season data, as well as and available forest inventory data, needs to be made. Results should be ready in time for budget release under RNRSP in July 2013.
- **Comprehensive/integrated databases for organic RNR products and one-stop farmers' shops** are required to be established for two indicators that are the responsibility of NOP and DAMC. Both agencies need help in setting up these databases and it is recommended that they seek help from the PPD for this. Each requires a comprehensive *Indicator Monitoring Sheet* to be prepared for data collection from various sources.
- The **status of enabling instruments** in the RNR Sector needs to be tracked using an Excel spreadsheet by PPD e.g. from drafting, MOAF approval, Council of Ministers Approval, Parliamentary approval etc. The spreadsheet should be consolidated across all agencies. A key issue will be the status of implementation, and adoption by various stakeholders, of each of the enabling instruments.

1 INTRODUCTION

1.1 Background to this EC Mission

The European Commission (EC) has provided grant-aid of €5.6 million for the Renewable Natural Resources Sector Programme (RNRSP); in the form of untargeted budget support through three Fixed and two Variable Tranches as specified in the Financing Agreement signed in April 2011. The effective programme life is 3 years, starting from July 2011 to June 2014, spanning the last two years of the 10th Five Year Plan of the Royal Government of Bhutan and the first year of the 11th Five Year Plan.

The overall objective of the RNR 10th FYP is to achieve rural poverty reduction as per Vision 2010, GNH philosophy and the macro-targets set in the 10th FYP, which are the following: i) the incidence of rural poverty is reduced from 30.9% in 2008 to <20% by 2013; ii) to increase mean annual rural household cash income to >BTN 35,000 by 2013; iii) the agriculture sector grows by 4% by 2013. The Programme Objectives of the RNR 10th FYP include enhancing sustainable rural livelihoods through improved agricultural and livestock productivity, expansion of commercial prospects of agriculture and other natural resource endowments, and the conservation and promotion of sustainable utilisation of forest and water resources, arable agriculture and pasture land resources. It also aims at focussing on good governance so as to achieve improved service delivery, common services and creating an enabling legal environment and compliance to it.

The Mission (1-person) was mobilised for 33 days with visits to both the EC Delegation in India and the Ministry of Agriculture and Forests in Bhutan (8th September to 5th October 2011). Meetings with key stakeholders were conducted and included: the EC-Delegation in New Delhi, the Secretary of MOAF, staff at the Policy and Planning Division at MOAF, senior representatives of the nine implementing agencies responsible for performance assessment of targets specified under the PAF, statisticians responsible for tracking the baselines and targets for the PAF indicators, concerned stakeholders at the Gross National Happiness Commission and other relevant agencies. Meetings were held with the management consultant for the Support to Local Governance Support Programme (SLGSP) who was in Bhutan at the same time as this mission. A wrap-up meeting was held with MOAF officials on 3rd October 2011 (**Annex 10**).

1.2 History and Role of RNR Sector in Bhutan

The history of the RNR sector in Bhutan is summarised in **Table 1.1**. The four main broad phases of development are: (i) the establishment of Government structures and systems (including the Ministry of Agriculture) between 1960 and 1980; (ii) the promotion of decentralisation between 1980 and 1992; (iii) the establishment and institutionalisation of the RNR approach between 1992 and 2002 (including the merging of the departments for Agriculture, Livestock and Forestry); and (iv) the focus on RNR commodity approaches between 2002 and 2011.

Table 1.1: An Outline History of the RNR Sector and EU RNR Support in Bhutan

Years	Five Year Plan period	Focus under Five Year Plans	EU Project Start Date	EU Aid to Bhutan in the RNR Sector
1960		Creation of Government Structure and Road construction starts		
1961-1971	1st & 2nd FYP	Establishment of Departments for Agriculture, Livestock and Forestry ; 15 extension centres, 9 demonstration farms and 3 research centres established; promotion of food crops, cash crops and livestock breeds		
1971-1976	3rd FYP	Countrywide agricultural development programme was initiated ; extension mainly responsible for the supply of seeds, fertilisers and farm machinery to farmers		No direct EU involvement in Bhutan
1976-1981	4th FYP	Focus on reaching food self sufficiency and cash crop promotion (especially for horticulture production); extension activities expanded aimed at inputs supply; Forestry School established in Thimphu valley		
1981-1987	5th FYP	Whole country covered by the extension network ; extension management decentralised to the Dzongkhag level; most Gewogs staffed with one skilled extension agent; District Agricultural Officers (DAO) appointed in Dzongkhags under the direct command of Dzongdag; new technologies imported and adapted to local situations by research centres	1982	Plant Protection Service - first EU project (€ 3.5 million)
			1984	Rural Water Supply and Sanitation (€ 4.9 million)
			1985	TA Programme to Department of Agriculture (€1.1 million)
1987-1992	6th FYP	Decentralisation of agricultural developmental programmes to Dzongkhags ; expansion of externally funded area development projects in agriculture and animal husbandry to provide new technologies and practices; delivery of inputs privatised and distribution of credits taken from extension agents' responsibility; extension programme focus remains on sale of seeds and distribution of improved animal breeds to farmers	1988	Development of Agricultural Support Activities (€ 3.7 million)
			1990	Strengthening of Veterinary Services for Livestock Disease Control (€ 4.0 million)
			1991	Human Resources Development Project (€ 5.5 million)
1992-1997	7th FYP	Adoption of an integrated approach to farming systems development through the Renewable Natural Resources (RNR) concept ; the three departments of Agriculture, Forestry and Animal Husbandry merged under one administration; decentralisation of the RNR extension programmes further extended to Gewog level; establishment of the Natural Resources Training Institute (NRTI); National RNR Extension Policy developed	1992	Integrated Pest Management Development (€2.6 million)
			1992	Cultivation of Medicinal Plants for Traditional Medicine (€ 4.2 million)
1997-2002	8th FYP	Consolidation of integrated RNR set up; four RNR research centres fully operational; extension system benefits from NRTI graduates; RNR Research Centres sensitive to farmer needs; joint RNR programme planning becomes basis for sector planning; National Extension Policy implemented; more qualified RNR extension staff became visible at Dzongkhags	1997	Wang Watershed Management Project (€ 9.2 million)
			1998	RNR Extension Support Project (€ 6.3 million)
2002-2008	9th FYP	Focus on development and scaling up of individual RNR commodities ; target commodities include rice, citrus, potato, maize, medicinal plants, NWFP; business service provision approaches developed through value chain analysis; further consolidation of RNR service provision	2004	Medicinal Plants Project-Phase 2 (€ 4.2 million)
			2006	Support to the Livestock Sector Project (€ 4.6 million)
			2007	Agricultural Sector Support Project (€ 5.25 million)
2008-2013	10th FYP	Development of results based planning in RNR sector ; 29RNR programmes adopted; creation of Department of Agriculture Marketing and Cooperatives; further focus on support to individual RNR commodities; promotion of organic farming; expansion of community forestry; consolidation of protected areas at 51.2% of land area; emphasis on value adding to local timber resources; more emphasis on cross-cutting issues in the RNR sector such as gender and climate change; establishment of the National Planning and Monitoring System (PlaMS); Human Resources Master plan and restructuring of the MOAF	2011	Renewable Natural Resources Sector Support Programme – first EU RNR sector budget support programme in Bhutan (€ 5.6 million)
			2012	Climate Change Adaptation in the Renewable Natural Resources Sector Programme – pipeline budget support (€4.6 million)

The RNR approach was developed in order to view the whole farm as a system. It focuses on the interdependences between the components under the control of individual family members of the farm household and how these components interact with the physical, biological and socio-economic factors not under the control of the household. In the context of Bhutan, the farming system includes the linkages between the household, crops, livestock, forest and markets, and how the strengths of the interactions can vary from area to area depending on local resources and household needs. Interdisciplinary approaches are required, and the integration of agriculture, forestry and livestock departments in 1992 was a major step towards achieving a holistic approach to the use of mountain resources in Bhutan.

1.3 EU and its RNR Involvement in Bhutan

Between 1982 and 2006, the EU has supported the RNR sector by strengthening the institutional capacities primarily within the agriculture and livestock sectors, with support to the forestry sector being provided only through the Wang Watershed Management Project (**Table 1.1**). The Human Resources Development Project in the mid-1990s enabled a strong cadre of young educated specialists to be established in the Ministry, many of whom have now become heads of department and divisions. From 2006-2011, support to commodities in the agriculture and livestock sectors has been the main approach. Thirteen projects have been completed with a total EU aid budget reaching almost €65 millions. EU support to the RNR sector in Bhutan can be considered to have been very influential.

One of the problems with using projects as a stepping stone to larger scale production or service delivery programmes is the assumption that they can be transferred to all parts of the country without further testing or adaptation, and that they can be managed using conventional government procedures. In the case of Bhutan, many of the EU projects have been successfully applied/ institutionalised throughout the country after the project ended e.g. the recent formation of the Watershed Management Division in the Department of Forests and Park Services (DOFPS) – a clear spin-off from the Wang Watershed Management Project. This clearly shows that development projects can be successful policy experiments.

The EU and many other donors have, however, changed their philosophy on aid and are reorienting their development aid administration towards general budget support (GBS) or sector budget support (SBS).

Projects are considered to have deficiencies such as:

- A narrow focus & narrowly defined objectives
- More frequent bilateral negotiations and agreements
- A donor-recipient relationship with unbalanced power
- Parallel implementation arrangements
- Short-term disbursement relying on success of projects
- A blueprint approach.

Whereas, a Sector Wide Approach has advantages such as:

- A country holistic view on an entire sector
- External partners' coordination and collective dialogue
- Partnerships with mutual trust and shared accountability
- Increased use of local procedures
- Long term capacity/system development in the sector
- A process-oriented approach through learning by doing.

1.4 EU and Sector Budget Support

A **sector approach** (or SWAp) is a way of working together between government, development partners and other key sector stakeholders. It is a process aimed at broadening government and national ownership over public sector policy and resource allocation decisions within the sector, increasing the coherence between policies, spending and results, and reducing transaction costs (EuropeAid, 2007i)

This method of aid administration has developed out of the findings of several donor meetings and conferences:

1. The **Millennium Development Goals** (MDG) of 8 September 2000 make all aid subject to a performance-based approach. The MDG require the expected outcomes to be stated, either in the form of general objectives or as indicators to which targets are attached.
2. The **Paris Declaration (2005)** made results-based management a condition of aid delivery: *'Managing for results means managing and implementing aid in a way that focuses on the desired results and uses information to improve decision-making.'*
3. The **European Consensus on Development (2005)** is a unilateral commitment by the EU (Parliament, Council and Commission): *'The European consensus on development sets out common objectives and principles for development cooperation. It reaffirms EU commitment to poverty eradication, ownership, partnership, delivering more and better aid and promoting policy coherence for development. It will guide Community and Member State development cooperation activities in all developing countries, in a spirit of complementarities. The Community will consistently use an approach based on results and performance indicators. Increasingly, conditionality is evolving towards the concept of a 'contract' based on negotiated mutual commitments formulated in terms of results.'* (EuropeAid, 2007ii)

The support to the RNR Sector Programme in Bhutan has been pioneered by EU. At the moment there are no other donors involved in the RNR SBS to Bhutan, however, EU expects that in future years others will join this aid administration mechanism. However, a large number of donors are already supporting the RNR sector. For a list of active donor assisted projects in Bhutan see **Annex 9**. Around one third of current donor aid in the RNR sector in Bhutan comes from the EU. A further one fifth comes from Government of India (GOI), and around 15% from Japan (JICA).

2 RNR SECTOR POLICY AND STRATEGIC FRAMEWORK

2.1 The 10th Five Year Plan (2008-2013)

The policy objectives of the RNR sector for the 10th Plan remain as: (i) To enhance sustainable rural livelihoods through improved agricultural and livestock productivity and expansion of commercial prospects of agriculture and other natural resource endowments; (ii) To conserve and promote sustainable commercial utilization of forest and water resources; (iii) To promote sustainable utilization of arable agriculture and pasture land resources; (iv) To enhance Food Security through sustainable and enhanced food production and availability, improved access to food and enabling effective distribution, marketing and import of food; and (v) To transform subsistence agriculture to small scale commercial agriculture without compromising food security.

The policy objectives of the RNR sector under the 10th FYP are also linked to the various themes ultimately contributing to the realization of Gross National Happiness (GNH). The major linkages to GNH pillars for the RNR sector are reflected below:

GNH Pillar 1: Equitable & Sustainable Socio-Economic Development: Theme 1.1: Food security; Theme 1.2: Income Generation; Theme 1.3: Employment Generation

GNH Pillar 2: Environmental Conservation: Theme 2.1: Access to Natural Resources; Theme 2.2: Biodiversity Conservation

GNH Pillar 4: Good Governance: Theme 4.1: Service Delivery; Theme 4.2: Enabling Policy & Legal Environment; Theme 4.3: Common Services.

Policies that are supported through the RNRSP are: (i) Food Security by increasing rice production and increasing milk production; (ii) Income Generation by increasing incomes from horticultural crops and from meat production; (iii) Access to Natural Resources by stabilising forest (tree) cover and increasing the number of producers of organic RNR products; (iv) Service Delivery by increasing the number of functional One Stop Farmers' Shops (OSFS); (v) Common Services by increasing the proportion of households within easy access of a road head; and (vi) Enabling Instruments by increasing the number of Acts, Policies and Strategies that are prepared and approved. These policies remain valid at the start of the RNRSP in financial year 2011-2012 (see **Annex 1** for RNRSP correlation with 10th FYP policies). Strong emphasis was placed on the organic programme in a statement made by the Prime Minister in March 2011. The policy on OSFS has been the subject of a potential integration process with the Community Centres (CC) under Ministry of Information and Communication (MOIC) following a Joint Cabinet and Committee of Secretaries meeting last September 2010; however this merger is being strongly resisted by MOAF since the functions of the CC are totally different from those of the OSFS.

2.2 Mid Term Review (2008-2010) and Other RGOB Follow-Up

The Mid Term Review: The purpose of the MTR was to assess the progress of the 10th FYP in the first two fiscal years, 2008-2009 and 2009-2010, and to identify issues that are likely to impede the successful implementation of the Plan. The review was also intended at providing opportunities for sectors/agencies to reprioritise programmes for successful implementation in the remaining three years of the Plan.

Ministries and autonomous bodies have raised several issues and challenges that impede implementation of sectoral plan activities. Some of the common issues raised were: the need for capacity building & human resource development, cost escalation and the additional requirement for resources, fund release modalities resulting into delays in implementation of

projects, and the problems with integration of PlaMS and MYRB/PEMS. In addition to sector-specific recommendations of the MTR, the Government took the decision to de-prioritise all construction projects that do not have secured funding, and to complete all ongoing activities within the project budget by scaling down the scope of (further) work.

In the RNR sector the following key recommendations were made in the MTR:

1. The GNHC is to formalize the re-prioritisation of activities as proposed and in line with the ABSD initiatives and to incorporate the additional fund of BTN 277 million over and above the 10th Plan outlay for the MOAF.
2. The MOAF is to focus on increasing yield and farm productivity in the remaining plan period.
3. The Agriculture Machinery Centre (AMC) to explore other alternatives and options to sustain the farm mechanization programme and reduce the dependency on KR II grants from Japan. Considering the potential market in India, Bangladesh, and Nepal, the review instructed MOAF, MOF, and MEA to study the feasibility of establishing a manufacturing unit in southern Bhutan.
4. Relevant sectors, spearheaded by the MOAF, to develop and implement appropriate incentives to encourage highlanders to continue herding as an occupation.
5. The DOFPS to explore the possibilities of decentralizing the issuance of forest clearances to the field divisions. The DOFPS is also to review the possibilities of supplying timber required for Dzongkhag development works on a priority basis.
6. The MOWHS, MOAF, MOHCA, MOF, NEC, and GNHC are to jointly develop: (i) a coherent farm road strategy encompassing the selection of farm roads; (ii) identification of a clear lead agency for roads; (iii) quality standards; (iv) a sustainable solution to the maintenance of farm roads; and (v) the draft strategy to be presented to the Cabinet as soon as possible.

Accelerating Bhutan's Socio-Economic Development (ABSD): Following on from the MTR, the Royal Government of Bhutan, through the Prime Minister's support, has launched an initiative in 2010 for Accelerating Bhutan's Socio-Economic Development in order to achieve the aspiration of making Bhutan a self-reliant nation by 2020 and to establish a sound foundation for democracy. The ABSD initiative has a three-pronged agenda: (i) To improve efficiency and effectiveness of public services; (ii) To achieve a substantial proportion of the targets set for the 10th FYP; and (iii) To enhance and manage change to ensure real and sustained impact.

The RGOB has prioritized the areas requiring more concerted effort by the government. RGOB has also hired McKinsey & Company, based on a competitive review, to bring best practices from around the world in forming strategies towards meeting the 10th FYP targets and to provide on-the-ground support in translating ideas into action.

In relation to the RNR sector the following eight priorities were set:

1. To provide market access to farmers for eight prioritized products (Apples, Oranges, Pomegranate, Asparagus, Potato, Walnut, Mushroom, and Passion Fruit) through contract farming.
2. To improve farmers' access to inputs and market through promotion and formation of groups and co-operatives.

3. To increase rice productivity in selected zones, where currently the productivity is very low.
4. To increase the supply of wood in the market through sustainable forest management and strengthen local processing capacity.
5. To improve the accessibility of rural agricultural people to financial services through development of a financial inclusion policy.
6. To enhance the area under irrigation through development of irrigation master plan and provision of alternative sources and technologies for water harvesting and management.
7. To promote organic farming in Bhutan.
8. To enhance the last mile service delivery to farmers in Bhutan through revamping extension services and improvements in other delivery mechanisms.

Organisational Structure Changes: There have been several changes in the organisational set-up within MOAF since the formulation mission for RNRSP was carried out in March 2010. A new Department was created, the Department for Agricultural Marketing and Cooperatives. A new division was created in the Department of Livestock (DOL), namely, the Dairy Development Division. In the Department of Forest and Park Services (DOFPS) there are three new divisions: Watershed Management Division, Wildlife Conservation Division, and Natural Recreation and Tourism Division. One division changed its name to Forest Protection and Enforcement Division. Other divisions changed their names in the Council for RNR Research. The creation of these new divisions indicates the varying new emphases placed on certain policy areas within the MOAF.

2.3 Impact of MTR, ABSD and Organisational Restructuring on EU's Support to RNRSP

Policy Areas: The three initiatives that could have an influence, either positive or negative, on the policy areas chosen in the RNRSP are the MTR, the ABSD, and organisational restructuring within MOAF.

These three initiatives have been assessed with regard to the varying emphases that they each place on the broadly defined policy areas that have been selected in the RNR Sector Programme to be funded by the EU. The range of support varies from: 'strong positive support', 'positive support', 'neutral', 'negative support'.

The following table (**Table 2.1**) ranks each RNRSP policy area with regard to the support it attracts in the three mentioned initiatives:

Table 2.1: RNRSP Policy Areas and their Emphasis in Three Recent Policy Initiatives by RGOB

RNRSP Policy Areas	RNR Initiative since June 2010		
	MTR	ABSD	Organisational Restructuring
Food Security			
Rice production	1	1	3
Milk production	1	3	1
Income Generation			
Horticulture production	1	1	3
Meat production	1	3	3
Environmental Conservation			
Organic farming	3	1	3
Forest cover	3/4	3/4	1
Service Delivery			
Integrated marketing facility (OSFS)	3	1	1
Access to roads	1	2	3
Enabling Environment (Acts, Policies, Strategies)			
Institutional Strengthening			
Donor coordination	3	3	3
National planning and monitoring	1	3	3
Organisational structure	3	3	2
Human resources development	3	1	3
Capacity building	3	1	3
Cross-cutting issue integration (climate change)	3	3	3
Average Score for each RNR Initiative	2.2	2.1	2.5

1. *Strongly supports policy area in RNRSP*
2. *Supports policy area in RNRSP*
3. *Neutral to policy area in RNRSP/Not mentioned*
4. *Negative to policy area in RNRSP*

MTR- *Mid Term Review of 10th FYP*

ABSD- *Accelerating Bhutan's Socio-Economic Development (Prime Minister's initiative)*

Organisational Restructuring- *New agencies within MOAF since 2010*

In summary, all the indicators in the PAF are 'strongly supported' or 'supported' in one or more of the RGOB policy initiatives since June 2010. One weak indicator is forest cover which may be affected by 'decentralizing the issuance of forest clearances to the field divisions' and 'increasing the supply of wood in the market through sustainable forest management and strengthen local processing capacity', both of which have the potential to affect forest cover and its quality negatively if forest management standards are not kept to a high level.

Capital Expenditure Trends: The RNR Sector accounts for 4.9% of Bhutan's capital outlay for the 10th FYP (2008-2013). From the total outlay of BTN 3,627 millions for the RNR sector, BTN 1,393 millions (38.4%) had been spent by the end of fiscal year 2009-2010.

The findings of the MTR clearly indicate that expenditure in all MOAF departments did not meet the overall budget envisaged in the plan for the two years from 2008-2010 (see **Table 2.2**). The overall achievement against budget was 59%. This was due to several factors: (i) over-budgeting in the first two years of the FYP; (ii) the lack of funds available to meet the budgeted targets; and (iii) the low absorption capacity of some departments linked to staffing shortages and implementation skills capacity.

Table 2.2: Progress with Capital Expenditure up to Mid Term Review in MOAF (2 years; 2008-2010)

Departments/Agencies	10th FYP Outlay (in Millions BTN)	Cumulative 2 year Budget (in Millions BTN)	Cumulative Expenditure (in Millions BTN)	Achievement Against Budget (%)	Achievement Against 10th FYP Outlay (%)
Department of Agriculture	1,318.59	688.43	418.47	61	32
Department of Livestock	792.64	705.04	404.50	57	51
Department of Forests & Park Services	964.64	564.22	288.54	51	30
Department of Agriculture Marketing & Cooperatives	114.87	133.01	93.10	70	81
Council for RNR Research of Bhutan	214.85	130.90	89.07	68	41
Bhutan Agriculture and Food Regulatory Authority	117.19	95.81	69.76	73	60
National Biodiversity Center	89.22	42.77	28.08	66	31
Rural Development Training Centre	14.52	3.34	1.88	56	13
Total Capital:	3,626.51	2,363.53	1,393.40	59	38
Total Recurrent:	3,826.74	2,062.73	1,739.30	84	45
Grand Total:	7,453.25	4,426.26	3,132.70	71	42

The ABSD plan for the remainder of the 10th FYP is to re-prioritise some of the activities in the 10th FYP for the RNR sector up to June 2013. The emphasis in order of capital investment priority is: irrigation and water management (BTN 500 millions), cooperatives and farmer groups (BTN 240 millions), micro-finance and micro-insurance (BTN 150 millions), rice commercialisation (BTN 100 millions), sustainable forest management (BTN 80 millions), contract farming and exports (BTN 30 millions), organic farming (BTN 17 millions), and services delivery (BTN 3 millions).

In order to achieve the above capital expenditure target of around BTN 970 millions, an amount of BTN 640 millions is to be re-appropriated from existing programmes, including BTN 180 millions from livestock programmes (MOA 15/16), horticulture BTN 30 millions (MOA 06), forest protection BTN 15 millions (MOA 22), and BTN 10 millions from rural access (MOA 10).

The EU contribution to the remainder of the 10th FYP is around BTN 340 millions which potentially could contribute roughly one third to the re-capitalisation plan under the ABSD. However, some of the priorities in the RNRSP are not included under the ABSD plan, the latter lacks attention to milk and meat production, forest cover stabilisation, and rural access.

The ABSD process appears to lack multi-agency consensus, and certainly multi-donor coordination is lacking.

2.4 EU Contribution to Strategic Policy Areas in the 10th FYP through RNRSP

2.4.1 Rice Production

Metric tonnes of paddy rice (un-milled) produced in Bhutan per annum increasing slightly up to 2013

Rationale for Intervention: Rice is a staple grain crop in Bhutan and since about half of the rice used in Bhutan is imported, mainly from India, the RGOB policy is to increase the production of rice within Bhutan and to reduce the dependence on imported sources of rice, which may with time become unreliable. Reduction of reliance on imported rice will

strengthen overall food security in Bhutan. Due to the importance of rice to the Bhutanese diet, this indicator contributes directly to the GNH Policy Theme 1.1: Food Security.

Strategies for Achieving Targets: The main strategies for achieving increased rice production through to 2013 include: (i) support to increasing crop yields in traditional rice growing areas (through subsidised mechanization, training in improved agronomic practices, plant protection, and post harvest processing); (ii) expansion of irrigated areas by converting dryland farming areas to rice production (especially in lower altitudes); (iii) initiation of double rice cropping in suitable areas; (iv) support to rice growing in higher altitude areas as a result of climate change; and (v) commercialisation of rice farming by providing rice processing plants to farmers groups and cooperatives.

Risks and Constraints to Achieving Targets: Rice crops can be affected by natural hazards such as intense rainfall, flooding, damage to irrigation infrastructures during the monsoon season, pests and diseases. In 2010 some areas were badly affected by rice blast and farmers were encouraged to change seed sources and to adopt new rice varieties.

2.4.2 Milk Production

Metric tonnes of milk (cattle, yak, and buffalo) produced per annum by farming households in Bhutan are increasing

Rational for Intervention: There is a strong emphasis on milk production and processing at the household level in Bhutan, and butter and local cheese are also major components of Bhutanese diet. Around 10.5% of farming households sell milk; 18.5% sell butter and 16.2% sell cheese (Livestock Census, 2010). In many areas, the primary purpose of keeping livestock (cattle, yak, and buffalo) is to supply draught power and manure for crop production as the Bhutanese rural economy is still primarily a subsistence economy with a mixed farming system comprising agriculture crops and livestock. Cattle and yak are also used to transport goods. Livestock keeping in Bhutan also provide a sense of security to rural farmers in times of crop failure since they can be exchanged readily for cash or food grains. The demand for dairy products, mainly in urban areas, is very high and it is largely supplemented by Indian imports. Due to the importance of milk and milk products to the Bhutanese diet, this indicator contributes directly to the GNH Theme 1.1: Food Security, as well as contributing to Theme 1.2: Income Generation.

Strategy for Achieving Targets: The main strategies for achieving targets include: (i) breed improvement schemes through artificial insemination services; (ii) fodder development through enriching crop by-products; (iii) improved animal health care practices at farm level; (iv) promoting the adoption of feed blocking equipment and mini-feed mills; and (v) establishment of new dairy plants to encourage local farmers to increase milk production for sale.

Risks and Constraints to Achieving Targets: There are number of risks to achieving milk production targets: (i) the poor availability of appropriate dairy breeds and breeding stock; (ii) the increasing number of unproductive cattle; (iii) inadequate feed and fodder resources; (iv) poor pasture management; (v) absence of a milk processing and marketing system; and (vi) milk producer group capacities and initiatives.

2.4.3 Horticulture Cash Cropping

Percentage of farming households earning more than 50,000 Ngultrum per annum from sale of horticultural crops (fruits, nuts, vegetables) is increasing

Rationale for Intervention: Commercial horticulture production has been one of the success stories in Bhutan over the past 25 years, particularly for mandarin orange, apple and potato which are exported to Bangladesh and India. An Outcome indicator has been developed using the raw data from the RNR Census and the Annual Agricultural Survey to provide information on the number of farmers that earn income from all horticulture crops (fruit, nut and vegetables) in 6 income ranges. The median income range boundary of BTN 50, 000 is used to identify farmers that are gaining significant income well above the average rural household annual expenditure level which is BTN 10, 829 (NSB, 2007). The previous indicator mentioned in the Financing Agreement is not easily measurable according to the Focal Point for this indicator at the Horticulture Division. This new indicator directly links horticulture sales to farmers' incomes and directly supports the GNH Theme 1.2: Income Generation.

Strategies for Achieving Targets: Horticultural crops can be either perennial or annual in nature, consequently, target achievement in any one year will depend on past planting of perennial crops such as citrus and apple that have just started fruiting (inherited production), regular agronomic improvement to mature fruit or nut bearing plantations, and production of annual crops such as potato and other vegetables.

The main strategies for reaching the annual horticultural target of increasing percentage of farmers earning more than BTN 50,000 per year from sale of horticultural crops (fruit, nut or vegetable) to 2013 include: (i) expansion of vegetable growing in 7 Dzongkhags to supply 10,000 labourers working at the construction sites for 3 large hydro-electric power stations for at least 10 years; (ii) establishing marketing linkages for new crops such as passion fruit and *amla* (Indian Gooseberry); (iii) provision of high quality and disease-free seed and seedlings to farmers; (iv) up-scaling the size and number of greenhouses; (v) intensive training of Gewog RNR extension staff who are responsible for implementing the OGTP ('*One Gewog Three Products*') policy; and (vi) diversification into new varieties and new crops to capture potential markets .

Risks and Constraints to Achieving Targets: For the main income earning horticulture crops such as apple, citrus, and potato, there are several risks to achieving stable annual harvests. In apple orchards woolly aphid, apple scab and powdery mildew can damage orchards severely. Citrus orchards may be poorly managed and become infested with pests such as Chinese citrus fruit fly and powdery mildew; removal and destruction of infected orchards is a standard international practice in many citrus growing areas. In potato production areas, potato tuber moth (PMT) and late blight are among the most damaging pests and diseases, and, together with crop damage by wild pigs, are the main causes for reduced yields. Uncertain market prices and lack of buyers will reduce incomes in some areas and in some years.

2.4.4 Meat Production

Metric tonnes of meat (beef, mutton, goat, pork, yak, buffalo, poultry, and fish) produced per annum and sold by farming households in Bhutan increases to 1,785 by 2013

Rationale for Intervention: Keeping of livestock (beef, pork, yak, buffalo, mutton, goat, chicken, fish) for the purpose of meat production is very limited in Bhutan due to strong religious sentiments with only 2.5% of farming households selling beef or pork in 2008 (RNR Census Report, 2009). With recent changes in food habits, the consumption of meat is increasing among the urban population. To meet the growing needs of the country, a substantial amount of meat is imported and animals that die as a result of accidents are also sold. The ratio of domestic production of meat to imported meat is currently 0.14 (from analysis of Trade and Census Statistics for 2010), consequently, there is a huge potential for

substituting imported meat with home-grown meat. Accelerating meat production has significant potential to add to farmers' incomes and directly supports the GNH Theme 1.2: Income Generation.

Strategies for Achieving Targets: The main strategies for increasing the production of domestic meat production are: (i) to focus on the more socially acceptable meat products, namely pork, goat, chicken and fish; (ii) to focus efforts in southern Bhutan where there are less social restrictions on producing meat; (iii) to remove unproductive dairy cow stocks and replace with new more productive breeds; (iv) to support the establishment of small meat market outlets in each Gewog (where there is a demand for meat) to generate small meat surpluses at the local level and help improve local nutrition levels; (v) to encourage the private sector start-up processing plants for pork products.

Risks and Constraints to Achieving Targets: The constraint is not the demand in Bhutan which is very high for meat products. The main issue is the social constraint to killing animals amongst most of the population, and innovative mechanisms need to be sought to overcome this as has been the case in India where similar problems occurred in the past.

2.4.5 Organic Renewable Resources Expansion

Number of rural households adopting organic renewable resource technologies and selling organic produce (either registered or non-registered) in Bhutan increases to 3,000 by 2013

Rationale for Intervention: The production and sale of organic renewable resources includes products from agriculture, livestock and forestry and may involve on-farm and off-farm resources e.g. vegetables from kitchen gardens, livestock products, or wild collection from community forests. To be considered organic, each of the commodities produced has to follow a strict set of compliance criteria for it to be certified as organic. Since the registration of organic producers has still to be achieved in Bhutan due to lack of a local certification system, records of organic producers come from data of Bio Bhutan which is currently the only enterprise in Bhutan dealing with certified products. Since 3rd party certification is only realistically available at the moment from India, and is very expensive, the RGOB is considering developing its own certification service for 3rd party certification and a Participatory Guarantee System (PGS) for domestic sale through BAFRA. It will take some years before this is fully established. In the meantime, farmers are selling produce as 'organic' even though it is not yet certified, although they have adopted some if not all recommended organic practices. One of the success stories over the past 5 years has been the production of lemon grass. A total area of 15,604 hectares has been certified for wild collection of up to six hundred tons of lemon grass for the production of lemon grass oil by Bio Bhutan a private company based in Thimphu. The area is managed by eight community forestry groups. The inspections are carried out by ADITI www.aditicert.net, an Indian Certification Agency, which is accredited by the European Union. The certificate for wild collection, processing and trading of lemon grass and lemon grass oil also fulfills the requirements of India's National Programme for Organic Production in terms of standards.

Strategy for Achieving Targets: The main strategies for increasing the number of farmers involved in production, processing and marketing of organic RNR products include: (i) sensitising local farmers to form organic RNR groups and training them on commodities only when they show sufficient interest in the organic approach to RNR production; (ii) adopting a commodity approach for niche products mainly targeted at local and international markets; (iii) adopting a high value and low volume RNR product; (iv) adopting contract growing in suitable areas with the aim of 3rd party certification for export market and PGS certification for domestic market; and (v) encouraging formation of organic processing and marketing

enterprises/cooperatives in strategic parts of Bhutan e.g. similar to Bio Bhutan which produces 13 organic products after 7 years in operation.

Risks and Constraints to Achieving Targets: Organic agriculture/RNR development will be a gradual process and should initially start with products which have established markets or have comparative advantage. Organic products should be based on local initiatives and interest, and should not be forced on any group. The high cost of certification for the overseas market will be a constraint in the short term. The competition with cheaper domestic non-organic products might also be a constraint initially. However, there is strong support for this policy area from the Prime Minister.

2.4.6 Forest (Tree) Cover Stabilisation

Percentage of land area in Bhutan under forest (tree) cover is stabilized at 60% or is higher

Rationale for Intervention: Article 5 of the Constitution of the Kingdom of Bhutan states that: “*Every Bhutanese is a trustee of the Kingdom’s natural resources and environment*”. The Royal Government is enjoined in the Constitution to conserve and improve the environment and safeguard the country’s biodiversity. It is further directed to secure sustainable development while promoting economic and social development. The Constitution further charges the Government to ensure that a minimum of 60 % of country’s land area should be maintained under forest cover for all time.

National Forest Policy of 2011: The total area of forest in the country is 24,718.147 sq. km. and this combined with scrub forest of 3,457.348 sq. km, constitutes 72.7% of the land area. Approximately 43% of the total land area is contained within the Protected Areas system with an additional 9% designated as biological corridors (the sources of these data are not quoted).

Bhutan Land Cover Assessment of 2010 (based on satellite data for the winter periods of 2006-2009): The total area of forest is 27,050 sq.km. = 70.46%. The total shrub land area is 4,005 sq.km. =10.43%. Combining tree cover and shrub cover gives 80.89% of the land area.

Strategy for Achieving Targets: The main strategies for stabilising forest (tree) cover at 70% for the medium term include: (i) effective protection and enforcement in all government forest areas; (ii) establishment of foot patrol monitoring systems in hot-spot encroachment areas; (iii) planting trees in degraded forest areas through social forestry and watershed management activities; (iv) establishing an inter-sectoral monitoring system to track forest losses due to hydro-power schemes, road construction, settlement expansion, agricultural encroachment and illegal logging; (v) assessing the potential for forest and shrub expansion in high altitudes as a result of climate change effects; (vi) mass-campaigns on creating awareness of the need for maintaining forest cover for human habitat, environmental and biodiversity reasons; (vii) screening of all new Acts that involve land use change and ensuring that the forest rights are not contravened.

Risks and Constraints to Achieving Targets: The Land Act stipulates that trees on private land belong to the owner of the land, consequently, most land to be used for settlement, buildings and for agriculture have the potential for forest loss over time. In addition losses due to utility infrastructures such as hydro-power sites, power-lines and roads will add to the slow loss of forest areas over time. Closer monitoring of encroachment into forest areas is required.

2.4.7 One-Stop Farmers' Shops Expansion

Number of fully functioning 'One Stop Farmer Shops' in Bhutan is increasing

Rationale for Intervention: 'One Stop Farmer's Shops (OSFS)' are like any other business shops selling special farm related inputs, goods and services. The inputs will be stocked and sold in these OSFS outlets to the farmers at various locations. In addition to procuring and providing various agricultural inputs for sale to farming households, the OSFS will engage in buying RNR products from farmers and will sell them to interested buyers. The OSFS will be operated by individuals, farmers' groups or cooperatives.

The main objectives of farmers shops are: (i) contributing to the delivery of RNR services; (ii) improving and increasing RNR production and acting as a point of sale; (iii) Marketing of surplus produce of the local farmers; (iv) bringing in additional income to farmers; (v) providing employment for rural youth, and (vi) contributing to curbing the rural urban migration.

Strategy for Achieving Targets: The main strategies for increasing the numbers of functioning One-Stop Farmers' Shops include: (i) Using un-utilized government structures such as Gup Offices or RNR centres where the existing facilities can be used through minor rectification works; (ii) identifying interested local operators who can be registered Farmers Groups/Cooperatives, unemployed youth, Commission Agents/SSRs or local retail shopkeepers; (iii) provision of a grant to provide inputs worth up to BTN 50,000 (or in kind) as a start-up capital to encourage local operators to join the OSFS scheme; (iv) provision of shop equipment including tables, chairs, racks, shelves, other furniture for display of inputs and information materials (other equipments & services like computers & printers with internet facility, fax, telephone etc. may also be provided).

Risks and Constraints to Achieving Targets: Since this activity is new to the MOAF after creation of the DAMC (initiated after the merging of the Agricultural Marketing Services in DOAF with the Cooperatives Programme from the Ministry of Home and Cultural Affairs), there are no significant trends to analyse so far. Three OSFS have been established already in Tashigang, Mongar and Shemgang. A target of 100 OSFS has been suggested by DAMC; however, the number in the FA was a maximum of 40 which has been increased to 50 in the new PAF indicator RNR 7 here by DAMC.

2.4.8 Rural Access Roads

Percentage of rural population living more than 1 hour from a road head in Bhutan is decreasing

Rationale for Intervention: Rural access roads are important to farmers as they are used to import inputs and to export agricultural produce. Also, if there are no access roads, traders are unlikely to visit farms to carry out bulk buying. This indicator contributes to GNHC Policy Theme 3.1 Improved Common Services and contributes to good governance.

Strategy for Achieving Targets: The main strategies for increasing the length of farm access roads include: (i) every kilometre of road constructed should benefit at least 7 households; (ii) farm road should be constructed only where post construction maintenance agreements are made with the local Gup or households group; (iii) farm access roads should not be constructed in environmentally sensitive areas; and (iv) where the above cannot be met then improved footpaths/trails can be considered as an alternative.

Risks and Constraints to Achieving Targets: The MTR has already identified a number of constraints to a coherent farm road strategy. These include: (i) poor selection of farm road alignments; (ii) failure to identify a clear lead agency for roads; (iii) poor road quality standards; and (iv) a sustainable solution to the maintenance of farm roads.

2.4.9 Enabling Instruments in the RNR Sector Supported

Minimum of three legislative amendments, policies and strategies formulated, enacted and/or endorsed for RNR sector out of six prioritised under the EU's RNRSP budget support in Bhutan by 2013

Rationale for Intervention: Legislative amendments will be required under the revision of the Forest and Natural Conservation Act in order to strengthen the integrity of Bhutanese forest cover and conservation of resources (1 Act). Policy amendments are required to enable a National Food and Nutrition Security Policy, a National Forest Policy¹, and a National Biodiversity Policy in order to strengthen food security and conservation of forest and biodiversity resources (3 Policies). Strategy amendments are required to strengthen management of Non-Wood Forest Products and Protection of Agricultural Land by providing field staff with necessary guidelines for managing NWFP and conservation/protection of agricultural land (2 Strategies).

Strategy for Achieving Targets: The main strategies for achieving the final approval of Enabling Instruments such as Acts, Policies and Strategies are: (i) sensitisation of stakeholders at central agencies and at local government level; (ii) accurate and valid research documentation to back up the veracity of content in each enabling instrument; (iii) an assessment of the ability to implement the instrument in the Bhutanese context.

Risks and Constraints to Achieving Targets: There may be a risk that Acts and Policies are not endorsed by the Parliament or the Cabinet of Ministers. Similarly, there is a risk that strategies and frameworks may not be approved at Ministerial level.

¹ Bhutan recently received an Honourable Mention at the UN for its 'Forest Policy 2011' inclusion of high forest cover targets of more than 60%. Bhutan has the highest proportion of forest cover and protected areas of any Asian country.

3 INSTITUTIONAL SETTING AND EXISTING CAPACITY

3.1 Donor Coordination

EC Special Conditions in FA: “The Ministry of Agriculture (and Forests) in cooperation with GNHC has successfully initiated a Government-led donor coordination mechanism for the RNR sector” **and** “Formal sector and donor co-ordination is established and functioning”

The relatively small number of donors supporting Bhutan allows for a regular informal exchange of information and co-operation amongst donors, and also the RGOB with its donors. Consequently, even without a Government-led donor co-ordination mechanism in place co-ordination and collaboration takes place to a considerable level. The Governance Sector is currently the first and only sector, in which formal Government-led donor co-ordination has been established through a Government-led multi-donor funded Good Governance Support Programme.

Government-led donor co-ordination in the RNR sector is covered by a regular annual donor co-ordination meeting organised by GNHC, in which co-operation in the RNR sector is discussed together with other sectors. Besides this meeting GNHC and the MOAF as lead agency co-operate on an individual basis with each donor. Several agencies do not have a permanent presence in Bhutan, including the EU, and coordinating their presence will be challenge.

During this mission, the GNHC focal point for MOAF has continued to express a strong interest in setting up a formalised donor co-ordination mechanism for the RNR sector, the establishment of which has been included as one of the Variable Tranche release criteria for the sector support in 2012 and 2013.

The following main international donor agencies are currently supporting the RNR sector in Bhutan: EU, GOI, HELVETAS, GEF, JICA, UNDP, IFAD and DANIDA. A number of other agencies are supporting the RNR sector with technical assistance and small grants e.g. ICIMOD, BTFEC, WWF, FAO, World Bank, ADB, and individual private donors such as Paul Getty. A list of active donor assisted projects (including advanced pipeline projects) up to end September 2011 is found in **Annex 9**.

3.2 National Planning and Monitoring (PlaMS)

EC Special Conditions in FA: “The MOAF has successfully rolled out the National Planning and Monitoring System (PlaMS) under the supervision of GNHC” **and** “The PlaMS has been adjusted based on implementation experiences to ensure it fully serves its purposes”

PlaMS, the National Planning and Monitoring System, was launched in July 2008, and has since been tested through several training sessions at central and decentralised levels. Refresher training is currently taking place during 2011-12 spearheaded by GNHC officers. This section refers to the general status of PlaMS (see also **Table 3.1**); a section in Chapter 4 describes specific experiences with PlaMS in the RNR Sector for centralised programmes at MOAF.

Table 3.1: Short History of PlaMS Roll-Out

Date	PlaMS Activities
Early 2000's	PlaMS proto-type in operation
July 2008	PlaMS launched
September 2008	User guide prepared
October 2009	Conduct training on TOT for Focal Officers at PPDs in all Sectors. Task to complete data entry of approved 2009-10 budgets during the training session. Circa 20 trained
October 2009	Conduct training on TOT for District Planning Officers (DPOs) in all Dzongkhags. Task to complete data entry of approved 2009-10 budgets during the training session. 20 trained.
October 2009	Identification of PlaMS users at Ministry level by Focal Officers for access rights to be provided at different reporting levels (Programme, Activity, Sub-Activity level)
November 2009	Conduct Training of users at Ministries by Sector Focal Officers
November 2009	Training of respective Dzongkhag Sector Officers and Gewog Administrative Officers by DPOs. Circa 500 trained.
December 2009	1st Quarter Progress Report (July-September 2009) for FY 2009-10 through PlaMS
December 2009- January 2010	Testing Phase (roll-out)
February 2010	Operation (preparation of 2010-2011 Budget)
2011-2012	Refresher training on PlaMS and M&E for DPOs and Planning Officer at Ministries. Aim to provide onward training at Dzongkhag and Ministry levels. Circa 43 trained.

3.3 Human Resources Development

EC Special Condition in FA: *“The MOAF has carried out/commissioned a study proposing a detailed plan for institutional strengthening/ restructuring and human resource development at central and local level” and “Steps towards institutional strengthening of the Ministry has started in light of the recommendations of the study”*

Analysis of the current situation with HR distributions in MOAF shows that: (i) amongst the three main departments the staff allocations are DOFPS (46.2%), DOA (20.6%) and DOL (19.4%); (ii) 16.9% of the staff is female and most of these are categorised as support staff; (iii) more than half (57.08%) of the total staff in the RNR Sector is concentrated in Central Programs, a further 15.02% is at headquarters, leaving 27.9% at Dzongkhag or Gewog levels; and (iv) 60.9% of staff are support staff.

A start has been made towards carrying out a HRD study in the RNR sector through the preparation of Terms of Reference for a *MOAF Human Resource Needs Assessment for the 11th FYP*. A budget proposal has yet to be prepared for this by the HRD Division in MOAF. The HRD Division plans to hire either an international or a national consultant to carry out the study over a maximum period of 6 months which should be completed before the 2012 Joint Annual Review of RNRSP between RGOB and EU. The tasks to be carried out include:

- To document and study the functions of the agencies under MOAF and make a comprehensive strategy and implementation plan for HR management;
- To assess the training needs of the different agencies within MOAF;
- To assess the current HR deployment and utilisation of existing resources and suggest measures to rationalise their distribution so as to increase the impact of MOAF delivery systems;
- To assess the status of the MOAF Personnel Information System (PIS) and suggest means to utilize it in decision making;

- To assess and align the action plan for implementation of various components of BCSR or HRD policy;
- To prepare a detailed MOAF HRD plan for the 11th FYP.

The title for these TOR is inappropriate for the needs of MOAF and it would be better termed a *Human Resources Development Master Plan for the Ministry of Agriculture and Forests*.

The Organigram at MOAF has changed several times since the start of the 10th Five Year Plan, and this can cause disruption and lack of confidence amongst staff. The latest Organigram posted on the Ministry's web-site is very complex with large numbers of centres and units in addition to the divisions. Programme offices are not included otherwise the Organigram would be even more complex. It is clear that there is a need for further rationalisation across the MOAF agencies. A summary organisation chart is found in **Annex 7** (the IMS under DOAMC is in process of establishment).

3.4 Capacity Building

EC Special Condition in FA: *“MOAF has carried out capacity development measures at central and local level as per the HR development study” and “MOAF continues to carry out capacity development measures at central and local level as per HR development study”*

Current capacity building in MOAF is based on a *Training Plan* prepared for the 10th FYP and its up-date after the MTR and is in the form of an Excel spreadsheet. The plan does not appear to rely on a thorough needs assessment across agencies.

The *Training Plan* prepared by the HRD comprises slots for PhD (8), Masters (51), PG Diploma (147), PG Certificate (78), Bachelors (2), Diploma (26), and Short-term (312). Up to the MTR the emphasis has been on PhD (13), Masters (25), Bachelors (2), and Short-term training (975). Total trained by MTR was 1015 staff.

3.5 Cross-Cutting Issue Integration (Climate Change)

EC Special Condition in FA: *“Recommendations on the mitigation of the effects of climate change (as per NAPA or more recent studies) are considered during formulation of RNR 11th FYP”*

The above is one of the Special Conditions defined in the FA to the RNRSP. Progress towards achieving the incorporation/integration of climate change indicators in the RNR 11th FYP is consequently one of the institutional indicators that will be considered when triggering release of variable tranches under the RNRSP.

It is already established that climate change is happening in the Himalayas. Rapid melting of glaciers, erratic and unpredictable weather conditions, changing rainfall patterns, and increasing temperatures are already affecting the sustainable livelihoods of mountain and downstream populations in the Himalayas.

Currently, the EC is preparing a new budget support programme aimed at the Ministry of Agriculture and Forests entitled *Global Climate Change Alliance –Climate Change Adaptation in the Renewable Natural Resources Sector*.

The Ministry of Agriculture and Forests is providing the Secretariat for organising a *Climate Summit for a Living Himalayas Bhutan 2001* from 17-19 November 2011 in Thimphu, Bhutan. The summit involves representatives from the Governments of Bangladesh, India,

Nepal and Bhutan and a number of donors. It is expected that the results of this Climate Summit will assist in providing concrete climate change indicators in the following four thematic areas: (i) Securing biodiversity and ensuring its sustainable use; (ii) Ensuring food security and livelihoods; (iii) Securing the national freshwater systems of the Himalayas; and (iv) Ensuring energy security and enhancing alternative technologies.

4 PERFORMANCE MONITORING

4.1 Current Status of M&E in the RNR Sector

Key M&E Definitions The terms *data* and *information* are used interchangeably in everyday speech as meaning the same thing. However for programme and project managers, and information specialists, the terms have distinct meanings: (a) *Data* are facts, events, transactions and so on which have been recorded. They are the input raw materials from which information is produced; (b) *Information* is data that have been processed in such a way as to be useful to the recipient. Consequently, information is data that have been interpreted and understood by the recipient of the message, and it should be noted that the user, not just the sender, is involved in the transformation of data into information (Billing, 2009).

Monitoring can be broadly defined as *frequent largely routine collection, analysis and reporting on information about the performance of the work in a programme or project, comparison of this with the programme or project plans, and connected discussions and proposal for any corrective action.*

Evaluation is broadly defined as *a more thorough examination, at specified points in time, of programmes or projects or parts of them, usually with emphasis on impacts and additionally commonly on efficiency, effectiveness, relevance, replicability and sustainability.*

Whilst monitoring and evaluation are related there are some fundamental differences as shown here below, in fact many international funding agencies have separate monitoring and evaluation divisions:

	Monitoring	Evaluation
When is it done?	Continuously	At fixed points in time
What information is collected?	Directly available mainly secondary information about Outputs	More detailed primary information about Outcomes and Impacts that may be harder to obtain
With what purpose?	To check that activities are being implemented as planned	To see whether the programme/project's overall objective or programme/project purpose are being reached
Who does it?	Programme or project staff as part of their day to day work	Internal or external team with specialist knowledge, normally assisted by programme or project staff
How is the result used?	To improve the quality of project implementation and to adjust planning. As input to evaluation.	To judge the impact on the target population and to adjust objectives or decide about the future of the programme or project

M&E is a management tool for those who manage anything from a small project component, to a large project, or to an entire programme. The purpose of using M&E is to improve the project implementation in order to both achieve and enhance the impacts of the project/programme. A good M&E system will help to:

- Clarify what impact the project/programme is expected to have
- Decide how progress and impact will be assessed
- Gather and analyse the necessary information for tracking progress and impact
- Explain the reasons for success and failure and how to use this information to improve future actions.

An effective monitoring system will serve the needs of immediate programme/project management by:

- Providing managers with information needed for day-to-day decisions
- Providing key stakeholders with information to guide the project/programme strategy
- Providing early warnings of problems that need addressing
- Helping empower primary stakeholders, especially direct beneficiaries
- Building understanding and capacity amongst those involved in project activities
- Assessing progress and so building accountability.

An effective evaluation system can serve two purposes: (a) *formative evaluations* aim at improving the performance of the project or programme, which is evaluated through learning from experiences gained, whereas (b) *summative evaluations* are undertaken after the programme or project is completed with the purpose of judging the worth of the programme or project.

Evaluation of programmes or projects is carried out based on a *core set of variables of evaluation* as follows:

Efficiency: or the amounts of outputs created and their quality in relation to the resources (capital, time, equipment and personnel) invested

Effectiveness: or to what extent the planned outputs, expected effects (project purpose) and intended impacts (overall objective) are being or have been produced or achieved

Relevance: or to what extent the programme or project is addressing or has addressed problems of high priority, mainly as viewed by stakeholders, particularly the programme's or project's beneficiaries and any other people who might have been its beneficiaries

Impacts: or the longer-term, largely indirect consequences of the programme or project for the intended beneficiaries and any other people (positive or negative)

Sustainability: or the maintenance or augmentation of positive changes induced by the programme or project after the latter has been terminated

Replicability: or the feasibility of replicating the particular programme or project or parts of it in another context

General Status of M&E in the RNR Sector: Despite various M&E consultancies over the past 20 years or so, M&E has not established itself well within MOAF. The words monitoring and evaluation do not appear anywhere in the MOAF organisation chart and there are no sections within divisions that have this name. Instead, there are three Information Management Sections (IMS) in the three key departments of Agriculture, Livestock, and Forests and Park Services, and the new Department of Agricultural Marketing and Cooperatives has yet to establish an IMS. These IMS are primarily geared to either statistics gathering on key sector production targets leading to the publication of Annual Statistics Reports or on centrally managing administrative databases based on data provided by field offices e.g. the Forest Information Management System (FIMS) which compiles data from forestry field stations. The non-departmental agency called Information and Communication Services (ICS) is responsible for information dissemination through media, web-site formation, publications, newsletters etc. The Council for RNR Research in Bhutan has its own IMS.

Staffing in the IMS sections is very limited with one staff member in DOA, one in DOL, two in DFPS and none in DAMC which has yet to set up an IMS. Despite the small number of staff in the IMS, they are often called to carry out other duties in other divisions. The HR training

plan set at the start of the 10th Five Year Plan elucidates the situation with M&E across all agencies in MOAF. Although there were 211 training packages listed, there were no trainings specifically planned for M&E. One short course was envisaged for two staff at CORRB in Project Cycle Management and Evaluation. In the DOA two training packages were planned related to data gathering for the Annual Agricultural Statistics: one for Dzongkhags on data processing (100 staff) and the other on preparing the Annual Agricultural Statistics Report (5 staff from IMS and the Dzongkhags). One course was listed on Biodiversity Information Management at NBC. After the Mid Term Review, the situation slightly improved with a specific short course added in M&E for three staff at the PPD.

M&E at the Policy and Planning Division: The PPD Mandate (as described on the MOAF web-site) is currently as follows:

- To provide a proactive and responsive role in providing policy advice within the Ministry of Agriculture and Forests;
- To establish an effective RNR information system and play an active role, where appropriate, in primary data collection;
- To play an active role in effectively disseminating RNR information;
- To play an active role in planning at the macro level for RNR sector investment programme;
- To assist, on request, the technical departments in project identification, preparation and approval;
- To be both proactive and responsive in providing policy and economic advice in relation to the RNR sector outside the Ministry of Agriculture and Forests; and
- To provide secretariat support to the Minister as and when required.

Again the words monitoring and evaluation do not appear in the mandate or task list for PPD, although they are now tasked to provide oversight on the use, across all MOAF agencies, of the PlaMS, the centralised planning and monitoring system established by the GNHC in 2008 in response to the very weak status of M&E in all government ministries. Two PPD officers, the Deputy Chief Planning Officer and one Planning Officer, have been trained in the use of PlaMS and act as trainers and monitors of the use of PlaMS across all agencies in MOAF.

PPD has three sections: the Policy and Economic Planning Section (PEPS), the Information Management Section (IMS) and a Legal Section. The IMS section has one staff, a statistician/programmer whose main tasks involve managing the 10 year RNR Census (using MS Access, Excel and SPSS software), providing oversight and quality control to the departmental IMS, and providing RNR information from various sources with MOAF as required by decision makers in MOAF. IMS also has a GIS specialist who provides maps as required and also has oversight over all the other GIS units within MOAF.

M&E at the Department of Agriculture: The DOA has three key management divisions in the areas of arable agriculture, horticulture, and engineering. Besides these divisions, it has evolved to have eight other independent centres and several separate programmes such as the National Organic Programme (NOP); as well as the 20 Dzongkhag and 205 Gewog decentralised centres. This fragmentation of management cells makes it difficult to comprehensively monitor effectively or to gather information and statistics. The main function of the IMS at DOA is to provide information to PPD and DOA decision-makers and managers especially from the Annual Statistical Survey; and to carry out ad hoc monitoring surveys e.g. in the areas of food security and income generation. The DOA does not have

an integrated centralised database management system similar to that of FIMS at the DOFPS; consequently several centres and programmes have had no reason to maintain reliable administrative databases. There are no well-documented manuals and guidelines related to M&E and indicator development at DOA. The IMS currently has only one full-time staff member (a second senior staff member died recently and he has not yet been replaced). The remaining staff has had little or no training in data management, processing, analysis, statistics or programming, and is unable to analyse the raw data coming from the Annual Statistical Survey, and relies on statisticians from the PPD and the National Bureau of Statistics (NBS) for back-up. Processing is carried out using CPro, MS Access, Excel, and SPSS; however, training on these softwares has not been insufficient to allow staff in IMS or DOA to provide analysis or interpretation of data. All agencies in DOA are now mandated to use the PlaMS for planning and reporting based on the annual budgeting system for the 10th FYP; however, the IMS is unable to provide the necessary support to Programme Managers and farm managers that would ensure compliance in the use of PlaMS.

M&E at the Department of Livestock: The DOL has three key management divisions in the areas of livestock health, livestock production, and dairy development. Besides these divisions, it has evolved to have several other independent centres and five separate programmes such as the Breeding and Input Supply Programme (BISP); as well as the 20 Dzongkhag and 205 Gewog decentralised centres. Similarly to DOA there is no integrated administrative information management system that covers all divisions, centres, and programmes under DOL. The IMS has only one full-time staff member who is responsible for reporting on the Annual Livestock Statistics, monitoring over the use of PlaMS by central programmes, field stations, and farms. He was appointed as the PlaMS focal point in DOL and has given one 2 days training to Livestock Programme Managers and Farm Managers. However, follow-up refresher training has not been carried out.

M&E at the Department of Forests and Park Services: The DOFPS is the largest of the MOAF departments and has six technical divisions, a territorial division, nine national parks/wildlife sanctuaries/nature reserves, as well as several research and training centres. The IMS at DOFS has two staff whose main role is to manage the Forest Information Management System (FIMS); they are often called to carry out forest management planning duties besides their regular IMS work and are closely linked to the Forest Resources Development Division (FRDD) rather than the Director's office. The FIMS is an administrative information management system that collects data from data managers appointed in each Territorial Division and each National Park e.g. loss of forest cover due to illegal or legal encroachment in to government forest is one of the data sub-sets included in FIMS. Data in FIMS are analysed by the IMS staff using MS Access and Excel. The data managers at IMS and those in the field are either foresters or administrative assistants and they have few skills in statistics, use of software, or programming. The IMS officers are mandated to collect data from territorial division field offices and national parks once or twice a year for entry into the PlaMS; however, none of the IMS staff has had training on PlaMS so far.

M&E at Department of Agriculture Marketing and Cooperatives: This is a new department and was formed in 2009 by the merging of the Agricultural Marketing Services in MOAF with the Cooperatives Programme under the Ministry of Home and Cultural Affairs; it comprises two divisions, Marketing Development and Farmer Groups and Cooperatives Management. It has yet to establish an Information Management Section that is common to all the other key departments. It has appointed an IT Specialist to manage its website and posts agricultural commodity prices from around Bhutan, but the management of administrative databases and M&E activities are very weak. This is especially so for compiling monitoring records on the establishment and functioning of cooperatives and

farmer groups, including the formation of the new programme of *One-Stop Farmers' Shops* (OSFS). Like the other departments it is mandated to carry out annual physical/financial planning and reporting through PlaMS.

4.2 National Planning and Monitoring System at MOAF

Overall PlaMS Mandate: The mandate for designing and launching the National Planning and Monitoring System (PlaMS) was designated to the GNHC, and GNHC included a budget in the 10th FYP for strengthening the planning, monitoring and evaluation system throughout Bhutan. The PlaMS was launched in July 2008 and is based on the Results Based Monitoring (RBM) system.

Functionality of PlaMS at MOAF: Each of the RNR programme managers was responsible for preparing a programme planning and monitoring profile at the beginning of the 10th FYP which followed the concept of Results Based Monitoring (RBM). The profile includes four tables covering the following areas: (i) a programme results matrix; (ii) a programme activities matrix; (iii) a programme financial outlay matrix (including type and source of funding); and (iv) a monitoring and evaluation plan matrix.

A User Guide for PlaMS (GNHC, 2008) was produced in September 2008 which covers FYP entry, creating annual/rolling plans and budgets, and progress data entry and reports generation. In relation to FYP activities, when a programme profile is created it is linked to international and nationally set goals and targets e.g. MDG (which are entered centrally by GNHC). Outcome data entry includes describing outcomes, producing outcome indicators and baseline data. At the next level down, output definitions and activities along with implementation schedules, agency responsible and indicative costs (either recurrent or capital) are then required.

Training in PlaMS at MOAF: Two officers in PPD were trained as trainers in PlaMS. Each management unit in MOAF (division, centre, and programme) appointed a Focal Point for PlaMS who was then trained by the PPD officers. The training focussed on how to input data and how to generate reports in the PlaMS based on the *PlaMS Operating Manual*; however there was little training provided on RBM and this resulted in some management centres entering monitoring indicators that were poorly defined and not measurable due to lack of both available source data and baselines or reference points. Consequently, guidance on the PlaMS relates mostly to screen by screen data entry processes rather than how to produce indicators which are SMART. Due to transfers of staff across MOAF, there is a large number of staff, particularly in the IMS, who have had no training in PlaMS although they have the responsibility for monitoring the use of PlaMS. So far there has been no formal evaluation of PlaMS training and its impact on work practises.

Use of PlaMS at MOAF: PlaMS has not been used effectively at most divisions, centres, or programmes within MOAF so far. Reporting in almost all divisions and programmes for FY 2010-2011 (and in some cases in previous years) had not been carried out by end September 2011. One officer in a departmental IMS reported that 50% of their time was spent on the regular internal departmental databases, 40% on tasks outside their own TOR, and only 10% on PlaMS activities.

There have also been a number of problem areas identified by the programme managers and IMS staff when using PlaMS. These have included: (i) unclear and ambiguous indicator definitions (already mentioned) leading to no data sources; (ii) use of baselines that are not considered reliable and have not been taken from a reliable source or are manipulated due to perceptions on what datum a baseline should be; (iii) confusion when entering plan targets which resulted in some targets reducing rather than increasing (partly due to the use

of aggregated targets instead on annual targets); (iv) data entry problems when targets were entered using alpha-numeric entries rather than numeric ones (e.g. 100 MT instead of 100) resulting in rejection of data when aggregating to a higher level for reporting; (v) entering data, when two or more activities have the same name, resulting in rejection of previously entered data; (vi) problems with security since only one user's name and password were used in MOAF; (vii) when multiple users were logged on this slowed down the system considerably; (viii) trained Focal Points and Programme Managers were transferred and their replacements were not trained in PlaMS; (ix) some Programme Managers centralised data entry in Thimphu in order to better control data entry and reporting compliance whereas others decentralised data entry to farms or field stations; (x) electricity outages and internet network slowness or failure at critical times for data entry at field stations; (xi) refresher training has not been carried out so far; and (xii) low motivation levels amongst staff responsible for using PlaMS to enter data into the system in a timely fashion.

Integration of PlaMS with PEMS: PEMS/Multi Year Rolling Budgets (MYRB) and PlaMS systems are due to be integrated and 80% of the work has already been completed. This is likely to contribute to a more institutionalised use of PlaMS components, due to the existing PEMS compliance penalties. However the integrated system will not be rolled out until the launch of the 11th FYP in 2 years time (FY 2013-14).

4.3 Quality Assessment of RNR Statistics in Bhutan

Policy, Legal Framework and Mandates for RNR Statistics: There is no national policy or legal framework concerning management of RNR statistics in Bhutan. Procedural guidelines are issued by the MOAF in respect to data management problems that occur from time to time. The Policy and Planning Division (PPD) is currently mandated to carry out overall coordination and quality assessment of RNR statistics while the technical departments and non-departmental agencies collect data related to their respective mandates and functions. The PPD facilitates technical backstopping and fund mobilization, if necessary, to the departments and other agencies within the MOAF for implementation of statistical surveys.

Before 1992 agencies in the Ministry of Agriculture and Forests collected data to meet their own requirements. In 1992, the Mandate for agricultural statistics was centralised at the Central Statistical Organisation (CSO) under the Planning Commission; however the CSO did not have sufficient resources to carry out this mandate effectively. Between 1998 and 2003, the mandate for agricultural statistics was transferred back to the MOAF and placed under the Policy and Planning Division. In 2004 the mandate for annual RNR statistics data collection was delegated to the individual Information Management Sections (IMS) in each department at MOAF to allow PPD to focus on the 10-year RNR Census, ad-hoc statistical studies, and analyses and checking of surveys carried out by the departmental IMS.

The overall mandate for coordination and collection of RNR statistics in Bhutan is vested in the Policy and Planning Division at the Ministry of Agriculture and Forests. The Secretary for Agriculture considers PPD to be the “One Gateway” for users needing RNR statistical data. The overall PPD Mandate is currently as follows:

- To provide a proactive and responsive role in providing policy advice within the Ministry of Agriculture and Forests;
- To establish an effective RNR information system and play an active role, where appropriate, in primary data collection;
- To play an active role in effectively disseminating RNR information;

- To play an active role in planning at the macro level for RNR sector investment programme;
- To assist, on request, the technical departments in project identification, preparation and approval;
- To be both proactive and responsive in providing policy and economic advice in relation to the RNR sector outside the Ministry of Agriculture and Forests; and
- To provide secretariat support to the Minister as and when required.

Mission Statement on RNR Statistics: Currently there is no mission statement for management of RNR statistics in Bhutan; however, with the help of the Food and Agriculture Organisation (supported by World Bank), PPD is currently developing a set of RNR statistical management pillars that include: (i) establishing a minimum core set of RNR statistics, (ii) integrating of RNR statistics into the national statistics system; and (iii) establishing good governance for RNR statistics management and capacity building. This is based on the *Global Strategy to Improve Agricultural and Rural Statistics* (World Bank, 2010) and the draft *Action Plan to Implement the Global Strategy for Improving Statistics for Food Security, Sustainable Agriculture and Rural Development* (World Bank, 2011).

The *Global Strategy to Improve Agricultural and Rural Statistics* provides the framework to meet the current and emerging data requirements demanded by policy makers and other data users. The Global Strategy pointed out that there has been a serious decline in the quantity and quality of agricultural statistics over the past two decades. Many countries, especially in the developing world, lack the capacity to produce and report even the minimum set of agricultural statistics to monitor national trends. One reason why the number of countries capable of providing these data has declined was the lack of capability to provide meaningful analysis of the existing data

World Bank, 2011

Strategy for RNR Statistics: All the departmental and non-departmental agencies under the MOAF are involved in information management using their own standards and formats. This has often led to sketchy data and information being available for making decisions, policies, plans and programmes; there is occasional confusion amongst the various data users when locating reliable data and information.

The strategy for RNR statistics collection in Bhutan is not formalised in any strategy document. It is based rather on several stakeholders carrying out separate surveys with relatively weak coordination and correlation between sampling frames or collection methodologies. The key RNR statistical data sources in 2011 are: (i) a 10-year RNR Census carried out by the PPD; (ii) Annual Agriculture Sample Surveys carried out by the DOA; (iii) Annual Livestock Census carried out by DOL; (iv) up-dates to the Forestry Information Management System (FIMS) carried out by DOFPS; (v) ad-hoc data gathering for agricultural marketing, farmer groups and cooperatives carried out at DAMC; and (vi) trade in RNR produce compiled by the Trade Statistics Division, under the Ministry of Revenue and Custom.

Structure and Personnel for RNR statistics management: Statistical data and information management are under the overall control of various departmental Information Management Sections (IMS) with oversight coming from the IMS at PPD.

The main stakeholders that directly provide and use RNR statistics in Bhutan are:

1. Policy and Planning Department, MOAF (also providing oversight and coordination)
2. Agriculture Department, MOAF
3. Livestock Department, MOAF
4. Forestry Department, MOAF
5. Agriculture Marketing and Cooperatives Department, MOAF
6. Trade Statistics Division, Department of Revenue and Custom
7. Bhutan Agriculture and Food Regulatory Authority (BAFRA)
8. National Statistics Bureau

Systems for RNR Statistics: There is no overall RNR Statistical System Framework document that integrates all types of data management from Census, annual survey, administrative data base, to ad hoc indicator survey. Each department and agency under MOAF has its own data management system.

The FAO has recently requested the MOAF to submit a *Country Assessment of the Agricultural Statistics System*. This is part of the *Global Strategy to Improve Agricultural and Rural Statistics* (FAO/World Bank, 2010). The assessment includes three main areas: (i) the institutional environment; (ii) the core data available; (iii) the main statistical activities; and (iv) critical constraints in the agriculture statistics system. The PPD is currently completing this assessment for submission to the FAO at a regional workshop to be held in Bangkok in October 2011.

Critical constraints mentioned as significant in the preliminary RNR statistics assessment for Bhutan are: (i) the lack of professional staff in the field for statistical activities; (ii) the weak technical skills of available statistical staff; (iii) the low numbers of available professional and support staff at headquarters for statistical activities; (iv) weak appreciation of the importance of statistical activities at policy level; (v) turnover of professional staff; and (vi) weaknesses in the current methodology for carrying out RNR surveys.

In addition to the above assessment, which relates to sources of data for 5 of the PAF indicators under RNRSP (rice, milk, horticulture and meat production), there are problems with administrative RNR data management for two other PAF indicators (for organic RNR technology adoption and fully functioning 'One-Stop Farmers' Shops' expansion) where effective and integrated data collection systems are missing.

Management of RNR statistics: One of the major constraints confronting the RNR sector in recent time has been the lack of consistent and reliable statistical data. This has become more important since the launching of the PlaMS in 2008 and its need for accurate baselines, targets, and physical/financial performance data. An assessment of the PlaMS annual reporting within MOAF for year 2010-2011 by the Expert three months after the end of the financial year has shown that performance data for the most part has not been entered into the system. An overview of the current situation regarding statistics management in the RNR sector in Bhutan is found in **Table 4.1**.

Table 4.1: Overview of Status of Statistical Data Management in the RNR Sector, Bhutan

Stage	Current Situation	Problems and Issues	Possible Solutions
Planning	<ul style="list-style-type: none"> ▪ Decentralised planning of data collection by departments and agencies ▪ New responsibility for reporting on RBM indicators in PlaMS since 2009-2010 budget year ▪ PPD coordinates and provides technical backstopping 	<ul style="list-style-type: none"> ▪ Lack of legal framework for RNR statistics management ▪ Information needs by all potential users not well known ▪ Coordination on statistics management systems required ▪ Irregular correlation of data sources with PlaMS indicators ▪ Data collection for PlaMS not yet fully regularised ▪ Poor cooperation from some stakeholders ▪ Shortage of manpower at all IMS ▪ Skills in statistics, data management and programming poor across all departmental IMS 	<ul style="list-style-type: none"> ▪ Information Needs Assessment (INA) within MOAF and outside aimed at minimum data sets ▪ Establishment of RNR Statistical Framework in MOAF ▪ Restructuring of systems required (including linkage to PlaMS) ▪ Statistical Training Manual preparation and Training in statistics, data management and data analysis at IMS ▪ Regular meetings on RNR data management
Preparation	<ul style="list-style-type: none"> ▪ Initiatives for preparation for RNR annual surveys vested in departments ▪ Administrative database establishment vested with individual departments, centres and programmes 	<ul style="list-style-type: none"> ▪ Data collection tools for administrative databases poorly constructed in some agencies ▪ Insufficient training and sensitisation of field staff prior to Agriculture and Livestock surveys ▪ Pre-testing and revision of data collection tools not done well ▪ Sensitisation of farming household to role of surveys not done 	<ul style="list-style-type: none"> ▪ Validate all start-up processes ▪ Training of supervisory and field staff at Dzongkhags
Data Collection	<ul style="list-style-type: none"> ▪ Enumeration for RNR questionnaires done by field staff at Gewog level supervised by Dzongkhag staff ▪ Data for administrative information systems compiled by RNR field staff 	<ul style="list-style-type: none"> ▪ Data collection not consistent between enumerators and years ▪ Enumerators not sufficiently trained ▪ Supervision of field surveys poorly done ▪ Low priority given to statistical surveys by decision makers ▪ Resource constraints (finances, transport etc.) 	<ul style="list-style-type: none"> ▪ Annual sensitisation and training plans required for field staff ▪ Recruit more supervisory staff based at IMS ▪ Field allowances guaranteed for field staff specifically for statistical surveys ▪ Changes in field staff TOR to include data gathering
Analysis and Checking	<ul style="list-style-type: none"> ▪ Agencies process data with MS Access and SPSS with little if any rigorous analysis of data, tables, or trends ▪ Quality control of RNR data is done by one Statistician/ Programmer at IMS in the PPD 	<ul style="list-style-type: none"> ▪ Information generation from raw data incomplete ▪ Interpretation of data poorly done ▪ Self checking of data at agency level is weak ▪ Insufficient staff at departmental IMS and some programme offices ▪ Skills in statistics, simple programming, data analysis and interpretation poor 	<ul style="list-style-type: none"> ▪ Compare collected data with agreed indicators, and note differences ▪ Interpret the results and draw conclusions ▪ Decide on recommendations ▪ Check analysis with key informants ▪ Tabulate data

Stage	Current Situation	Problems and Issues	Possible Solutions
Reporting of Results	<ul style="list-style-type: none"> ▪ Annual RNR Statistics reporting carried out by departments ▪ CountrySTAT-Bhutan website operational at PPD ▪ PlaMS reporting system operational but not regularised yet across MOAF ▪ Administrative databases available in some departments, centres and programmes 	<ul style="list-style-type: none"> ▪ Untimely reporting; delays in publication of statistics and results ▪ Incomplete data sets or poor data lead to failure to report in some departments, centres and programmes ▪ Annual RNR reports have incomplete information sets; lacking in PlaMS indicator reporting 	<ul style="list-style-type: none"> ▪ Statistical data management annual work plans required ▪ Timelines for data management and reporting required across MOAF ▪ Compliance criteria on reporting needed
Use of Results	<ul style="list-style-type: none"> ▪ Decision makers use results to improve management and implementation of MOAF programmes on an ad hoc basis 	<ul style="list-style-type: none"> ▪ Feedback to/from decision makers and implementers rather weak ▪ Lessons learnt often not acted upon 	<ul style="list-style-type: none"> ▪ Formalised RNR strategy review and development workshops required to analyze and act on statistical reporting

Note: Findings are based on results of a questionnaire/checklist shown in **Annex 8**

4.4 Role of PAF in the RNR Sector Budget Support Programme in Bhutan

Performance Assessment Frameworks (known as PAF) are now generally used in all aid delivery mechanisms which aim at either General Budget Support (GBS) or Sector Budget Support (SBS). The PAF is an indicator matrix that links results directly to government policies. A PAF is generally used by governments in developing countries to track performance of their 5 year plans (FYP) and can be quite comprehensive with a large number of indicators; however, it is also used by donors to assess when to trigger budget releases and to help develop joint policy dialogues and knowledge sharing aimed at reviewing performance of the developing country's national plans. Generally, a PAF should not become too big as to be unmanageable, and this guideline was used in the development of the PAF for the Renewable Natural Resources Sector Programme (RNRSP) in Bhutan.

In the Financing Agreement for the RNRSP in Bhutan (EC, 2011) the PAF is entered into the table of *General Criteria for Release of Funds* (**Table 4.2 below**) as one source of verification for strategy, policy and implementation of the RNR sector, the other tools are Technical and Financial Reports by MOAF.

Table 4.2: General Criteria for Release of Funds under EU Sector Budget Support

General Criteria for Release of Funds	Sources of Verification/Documentation
Stability-oriented macroeconomic policy in place allowing for the continued use of budget support	Latest IMF report on Article IV consultations; in the absence of IMF report: WB country report, ADB country report, or ad hoc assessment by EU
Satisfactory progress in the weaker PFM areas as identified by the PEFA-based PFM assessment: Procurement and accounting; timely provision of Financial Management Reports and Audit reports	Report by RGOB against PFM reform projects supported by WB and ADB; Annual Financial Management Report by RGOB; Annual PFM report produced by the Delegation
The overall strategy, policy and implementation of the RNR sector is on track	Technical and Financial Reports by MOAF; <u>Assessment of progress of RNR sector programme implementation based on a RNRSP Performance Assessment Framework (PAF)</u>

The first draft PAF for the RNR sector in Bhutan was designed during the EC's RNRSP formulation mission to Bhutan in March 2010 when an attempt was made to match National and RNR Sector policies to a set of performance indicators that were already collected by

various sources in Bhutan. Unfortunately, there were difficulties in developing congruence (logical overlap and correlation) between policies at different levels and between policies and performance indicators, primarily due to the different policy sources used (GNHC and MOAF policy sets), which resulted in the divergent results-based indicator terminologies, and the complexities of simplifying linkages. This resulted in none of the chosen performance indicators shown in the *draft Action Fiche No.1* (EC, 2010ii) being used in the *final Action Fiche No.1* (EC, 2010iii); although some of the primary result areas remained the same. The *RNRSP Financing Agreement* (EC, 2011ii) that was signed in April 2011 kept the same Overall Objectives, Programme Objectives and Results as in the *final Action Fiche No.1*, but had changes in almost all the indicators, particularly in the baselines (reference values) set. The baseline and targets under the milk production key indicator were significantly different from those in the *final Action Fiche No.1*, and the unit of measurement for the meat production key indicator had changed from metric tonnes (MT) to millions of Ngultrum per year (BTN millions).

4.5 PAF Indicators in the Financing Agreement between EC and RGOB

The numbers of key indicators for assessment in *Annual Reviews for the RNRSP* are shown in the following table (**Table 4.3**), and they include both PAF indicators (mostly RNR technical indicators) used for triggering release of Fixed and Variable Tranches and additional Special Condition indicators (primarily institutional indicators) used for triggering release of the Variable Tranches:

Table 4.3: PAF Indicators and Special Condition Indicators in the RNRSP Financing Agreement

Target Type	Year		
	2011*	2012	2013
PAF Indicators			
Food Security	2	2	2
Rice production	1	1	1
Milk production	1	1	1
Income Generation	2	2	2
Horticulture production	1	1	1
Meat production	1	1	1
Environmental Conservation	2	2	2
Organic farming	1	1	1
Forest cover	1	1	1
Service Delivery	2	2	2
Integrated marketing facility (OSFS)	1	1	1
Access to roads	1	1	1
Enabling Environment (Acts, Policies, Strategies)	1	1	1
Special Conditions Indicators			
Institutional Strengthening		6	6
Donor coordination		1 (initiated)	1 (operating)
National planning and monitoring		1 (operating)	1 (adjusted)
Organisational structure		1 (study/plan)	1 (structure reformed)
Human resources development		1 (study/plan)	
Capacity building		1 (training in place)	1 (HRD starts)
Cross-cutting issue integration (climate change)		1 (in 11 th FYP)	1 (more training in 11 th FTP)
Total agreed targets for the year	9	15	15

*Reference values (baselines) and future projections/targets are now established for each of the 9 indicators mentioned in the PAF at time of release of first Fixed Tranche, and *Indicator Technical Fiches* are prepared for each one to form the basis for tracking in future years.

There are nine (9) key PAF indicators covering the policy areas of food security, income generation, environmental conservation, service delivery, and enabling environment. The six

(6) Special Condition indicators cover the policy area of institutional strengthening. The six (6) policy areas were defined by the RNRSP Formulation Mission (EC, 2010), and the indicators were chosen/defined through the process of preparing a Project Action Fiche and the Financing Agreement itself.

Most of the PAF indicators have been taken from the 10th Five Year Plan or adjustments to it made by individual RNR programmes following changes made during the 10th FYP or at the time of the Mid Term Review (2010) e.g. the establishment of the new Department of Agriculture Marketing and Cooperatives which was established in 2010 by merging the Cooperatives Programme under the Ministry of Home and Cultural Affairs with the Agriculture Marketing Services under the Ministry of Agriculture and Forests.

4.6 Validation of the Performance Assessment Framework (PAF) in Financing Agreement

History and Congruence of PAF Indicators: Due to the frequent changes in the definitions of the 9 PAF indicators, the Expert has prepared a congruence table that compares the way the 9 indicators have developed since insertion in the 10th FYP back in 2007/2008. This table is inserted at the end of this report (**Annex 3**). It compares five planning instruments: the 10th FYP, the Mid Term Review to the 10th FYP, the first Action Fiche prepared by the EC, the RNRSP Financing Agreement's PAF Appendix 1, and the proposals for up-dated PAF indicators as a result of the validation exercises during this EC mission. It soon became clear that there were many changes to the PAF indicators ranging from: definitions, baselines set, targets set, and level and type of aggregation.

Methodology for validation of PAF Indicators: The methodology for validating the PAF indicators found in the RNRSP Financing Agreement (EC, 2011ii), signed by RGOB on 12 April 2011, is based on the establishment of a set of validation criteria. The validation criteria developed have taken cognisance of three European Commission (EC) guiding documents: (i) the Terms of Reference for this consultancy concerning an *Annual Review of RNRSP: Assessment of Sector Policy and Programme Implementation and Validation of Performance Assessment Framework* (**Annex 13**); (ii) *Policy Steering: The Role and Use of Performance Measurement Indicators-an Aid Delivery Methods Guide* (EuropeAid, 2011); and (iii) *Guidelines for EC Support to Sector Programmes - covering the three financing modalities: sector budget support, pool funding and EC project procedures-Tools and Methods Series Guideline No.2* (EuropeAid, 2007i).

Validation of the indicators is based on a set of general criteria which are internationally accepted as relevant to all performance indicators, and a set of specific criteria which are relevant to the RNRSP and the unique context found within the Ministry of Agriculture and Forests in Bhutan.

The RNRSP PAF in the FA contains three types of indicator: Outcome (4), Output (4) and Input (1). These three levels of indicator fit into a classic results chain, the fourth indicator being Impact (**see definitions below**).

IMPACT: Measures the consequences of the outcomes in terms of wider objectives (for example, literacy rates, health improvement). The definition covers the wider effects of the outcomes but there might also be higher level impacts, related to broader objectives – growth and income poverty, for example.

OUTCOME: Measures the results at the level of beneficiaries (for example, incomes earned from selling horticulture crops, forest cover achieved from extra plantations). The definition covers the outcomes (or results) from the use and satisfaction of the goods and services produced by the public sector - it is where supply comes face-to-face with demand

OUTPUT: Measures the immediate and concrete consequences of the resources used and measures taken (for example, crop production achieved, One-Stop Farmer Shops established, policies prepared) The definition of output covers those goods and services "supplied", "produced" or "provided" by the public sector with the inputs.

INPUT: Measures the financial resources provided and the administrative and regulatory measures taken (for example, resources allocated, resources used, measures taken, laws passed). The definition of inputs can be treated as very broad; covering in some cases what is often called "process indicators".

Each of these performance indicators should respect the SMART principles of being Specific, Measurable, Accurate, Realistic and Time-bound (EuropeAid, 2011).

Table 4.4: Definitions of SMART Indicators

SMART Element	Definition
Specific	Clearly articulated and attributable relative to the project objective, purpose, and result/output. For example, how well are the target group, the project geographical area, the technical intervention, the baseline/ reference figure, and the target (projected) quantities defined in the indicator?
Measurable	How easy it is to measure the proposed indicator in a given area over a specific time period (difficult to measure indicators may use proxy indicators or may be avoided)?
Accurate	To what level of accuracy the indicator can and should be measured? Is the sampling method sufficiently accurate for the purpose of measuring the indicator? Can it be measured with the same accuracy when made by different people using the same method? Does the quality of the data remain constant over time (between years)?
Realistic	How viable/feasible it is to measure the indicator in terms of available resources within the project (staff, finances, time, and equipment)?
Time-bound	By when and how frequently the indicator of change has to be monitored?

In addition, an indicator that is considered **S-M-A-R-T** is also:

- *Not ambiguous* to the users;
- *Understandable* to the users;
- *Relevant* to users since it is selected with the participation of programme stakeholders;
- Collected by one source that has the *confidence* of the users;
- Based on data that is *readily available* such as secondary data or can be easily collected with little effort;
- *Correlating well* with the degree of achievement of its associated planning intervention or policy area;
- Able to force planners to agree on *precise and clearly formulated interventions* that will make it possible to evaluate the project in future;
- Containing the *right level of detail (level of aggregation or disaggregation)* for it to be useful to the users;

- Communicated to the *right persons* who are involved in decision making;
- Communicated through the *appropriate channel of communication*;
- Communicated *in time* for it to be useful to users/decision makers;
- Setting *clear standards* for project performance thus aiding management of programme inputs and resources;
- *Creating the basis for a simplified Monitoring and Evaluation System* for the programme.

The PAF indicators have been assessed based on a sub-set of SMART validation criteria that were rated into three status categories as follows (**see also Annex 2**):

1	Indicator within limits of acceptable validity for specific criteria
2	Indicator partially within limits of acceptable validity for specific criteria (improvement required)
3	Indicator not within limits of validity for specific criteria (improvement required)

4.7 Improving the Performance Assessment Framework (PAF)

Preparing Monitoring Tools: A major output of this technical mission is a series of monitoring tools developed to more accurately define the PAF indicator set to be used during the RNRSP between July 2011 and June 2014. These tools include: (i) an up-dated *Appendix 1 to the RNRSP Financing Agreement* (**Annex 4**), (ii) a *Summary PAF Indicator Tracking Sheet* to be used as a basis for dialogue during the Joint Annual Review for the RNRSP (**Annex 5**), and (iii) individual descriptions of the 9 PAF indicators in the form of a two page *Indicator Technical Fiche* for use by the PPD staff and Focal Points for each indicator within the various MOAF Departments (**Annex 6**). This also involved: identifying the historical statistical data set (for a period of 10 years where possible) from the appropriate sources, setting a valid baseline (reference value), and setting future projections for each indicator. This task was done together with key RNR Planning Officers at PPD who will be responsible for up-dating the *Indicator Technical Fiches* on an annual basis and for contributing towards each *Annual Review of the Performance Assessment Framework for the RNRSP*. The *Indicator Technical Fiches* were shared with focal points in each relevant department in the MOAF where the results that the indicators will monitor are to be achieved, and adjustments made after discussions and comments on each fiche.

Indicator Technical Fiches: An *Indicator Technical Fiche* is used in defining the collection and management system for each individual indicator and is structured in the following manner (**see also Annex 6**):

Table 4.5: Describing PAF Indicators in the Indicator Technical Fiches

Indicator Characteristic	Description
Indicator code	A unique code number for ease of locating in the filing system at PPD and in Annexes to the <i>Annual Reviews of the Performance Assessment Framework for the RNRSP</i>
Simplified name of key indicator	A simple 2-3 word name given to each PAF indicator to simplify dialogue when discussing the particular PAF indicator with government colleagues and donors
Indicator description	This is the full and precise definition of the indicator. It should include information on targets (future projections) to be achieved in terms of: <ul style="list-style-type: none"> ▪ Quality (how well?) ▪ Quantity (how much?) ▪ Target group or organisation (for whom?) ▪ Area (where?) ▪ Time (by when within the duration of the project?)

Indicator Characteristic	Description
Rationale for indicator	This explains the relationship between the planning level (Overall Objective, Specific Objective, and Result) and policy being monitored. The indicator description itself in many instances justifies the choice of indicator. Great care is needed in ensuring that there is a logical relationship between the levels. Purpose and reason for using the indicator may be described either in a specific Government policy (e.g. poverty reduction, environment sustainability, economic diversification, good governance, democracy and decentralisation, climate change), in a national development goal set in medium term planning (FYP), in the context of a sector goal (FYP), or from a Millennium Development Goal. PAF indicators are normally required to be Outcome indicators.
Source of indicator	<p>Quantitative data: Statistical data for many indicators will be derived from either existing administrative files or databases, from sample surveys or from a Census. In the case of PAF data collected through the Census, annual RNR surveys data or administrative field files and databases, then, data are collected by RNR extension staff based at district and gewog RNR centres.</p> <p>Qualitative data: Some indicators may be qualitative in nature and would be monitored through some form of subjective assessment in the form of a special survey, report or a case study. These would generally be collected at central offices level in Thimphu.</p>
Institution responsible for indicator	Name of institution responsible for organising the overall management of PAF data
Government person responsible for indicator	Name of key person responsible for designing or up-dating the PAF indicator methodology, arranging for collection, processing, analysis, quality control, presentation format, publishing and distribution of indicator data, and the person's contact details (host department/ division/ agency address, e-mail, phone number)
Time frame for indicator reporting	Since the PAF indicators need to be available for the Annual Review Meetings of the RNRSP which are generally held in Q3 of each year, this has an obvious effect on the time frame for information gathering and reporting. Reporting frequency is annual in most cases; some indicators from administrative sources can be reported bi-annually or quarterly if requested. Timeliness is very important since the indicator must be delivered to the <u>Chief, Policy and Planning Division</u> at MOAF as early in Q3 as possible to enable him to incorporate the findings in the <i>Annual Review Report for RNRSP</i> which synchronises with Fixed and Variable budget releases by EC. As mentioned most indicators are up-dated annually through sample surveys or administrative reporting. It is better to avoid indicators that are up-dated every 10 years or more due to the three year time frame of the RNRSP; alternative or proxy indicators will be need for these.
Baseline for indicator (reference value)	'Baselines' or 'reference values' are usually chosen to start in year 1 or the first year of implementation. It is the first year in which there is a projection of a target. The unspoken assumption amongst most planners is that there will be a positive linear growth, following the idea underlying the performance criteria model which links inputs to outcomes. This can work well for infrastructures to be built, training course to be held, vaccination campaigns, but less so for agricultural yields or indicators affected by policy. The annual values of agricultural yields can be affected by climate conditions, incidence of pests and diseases, and erosion hazards and cannot be easily compared from one year to the next. Setting a reference value for an agricultural commodity from farmland is best derived from an average of the last 5 or 10 years, and projections are then made from that figure using past trends lines.

Indicator Characteristic	Description																																	
Historical trends for indicator and future projections	Historical trends should cover up to 10 years, especially if the indicator is related to crop or livestock commodity production. Some indicators may have no historical trends.																																	
	<table border="1"> <thead> <tr> <th colspan="11">Historical Trends for indicator</th> </tr> <tr> <th>Year</th> <th>2001</th> <th>2002</th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> <th>2009</th> <th>2010</th> </tr> </thead> <tbody> <tr> <td>Unit type</td> <td></td> </tr> </tbody> </table>	Historical Trends for indicator											Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Unit type										
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Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010																								
Unit type																																		
Future projections cover the three years of the RNRSP budget support with the first year being the baseline or reference value.																																		
Analysis of indicator trends	<table border="1"> <thead> <tr> <th colspan="4">Projections for indicator (targets)</th> </tr> <tr> <th>Year</th> <th>2011</th> <th>2012</th> <th>2013</th> </tr> </thead> <tbody> <tr> <td>Unit type</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Projections for indicator (targets)				Year	2011	2012	2013	Unit type																								
	Projections for indicator (targets)																																	
	Year	2011	2012	2013																														
Unit type																																		
The historical trends (up to 10 years), future projections (3 years), and actual targets achieved need to be analysed in order to obtain information useful for policy change or planning/budgeting. Analysing trend behaviour requires assessing the rate of change (positive or negative) and explaining the changes. It also requires looking at any significant deviations from targets set and explaining these deviations (natural disasters, lack of funding, poor adoption rates, poor service delivery, etc.). The analysis could take the form of a short case study showing reasons for any over-achievement or the risks faced in achieving the projected targets (using statistical charts and maps as appropriate)																																		
Instruction for data management	<p>This section defines:</p> <ul style="list-style-type: none"> ▪ Data required (what?) ▪ Data sources (where?) ▪ Data collection (how and by whom?) ▪ Data quality control (how and by whom) ▪ Data processing (how and by whom?) ▪ Data reporting (from whom and to whom?) ▪ Inputs required (in terms of human resources, time, equipment etc.) 																																	

Responsibility for compilation, correlation, analysis and reporting of monitoring PAF indicators will be vested in the staff designated by the concerned department to track targets against set baselines for the nine RNR policy areas. Nine focal points have been identified and their contact details are found in each *Indicator Technical Fiche* (**see Annex 6**).

4.8 Special Conditions Indicators in FA

Function of Special Condition Indicators under FA: Variable tranches will be subject to **both** the PAF general conditions being met **and** subject to meeting special conditions applying for the release of each variable tranche. The Special Conditions below will supplement the above General Conditions and determine the level of each variable tranche to be released to the Royal Government of Bhutan. Non-achievement of a particular result (policy-action, indicator) in a particular year (N) will result in a proportionate reduction of the variable tranche paid that year. However, if performance is reached in the following year (N+1), that proportion of the tranche not released (in year N) can still be paid in that subsequent year (N+1).

The assessment of the criteria for the release of variable tranches will allocate an 'individual performance score' to each criterion. This individual score ranks between 0 (= 'not at all achieved') to 1.0 (= 'fully achieved'), with only one intermediate step of 0.5 (= 'partly achieved'). In the calculation of the overall score, the individual score of each criterion is represented with its individual weight as provided in the **Tables 4.6 and 4.7**.

Table 4.6: Special Conditions for First Variable Tranche 2012

Systemic Criteria for Release of Funds	Sources of Verification/Documentation	Weight of the criteria
The Ministry of Agriculture in cooperation with GNHC has successfully initiated a Government-led donor coordination mechanism for the RNR sector	<ul style="list-style-type: none"> Minutes of the donor coordination meetings (at least once a year) 	2
The MOAF has successfully rolled out the National Planning and Monitoring System (PlaMS) under the supervision of GNHC	<ul style="list-style-type: none"> Reports by Gewogs and Dzongkhags on physical and financial activities using the PlaMS format meet standards of quality and timeliness 	2
The MOAF has carried out/commissioned a study proposing a detailed plan for institutional strengthening/restructuring and human resource development at central and local level	<ul style="list-style-type: none"> Copy of the study 	2
MOAF has carried out capacity development measures at central and local level as per HR development study	<ul style="list-style-type: none"> MOAF training report 	1
Recommendations on the mitigation of the effects of climate change (as per NAPA or more recent studies) are considered during formulation of RNR 11 th FYP	<ul style="list-style-type: none"> First draft/preparatory documents of the RNR 11th FYP 	1

Table 4.7: Special Conditions for Second Variable Tranche 2012

Systemic Criteria for Release of Funds	Sources of Verification/Documentation	Weight of the criteria
Formal sector and donor co-ordination is established and functioning	<ul style="list-style-type: none"> Minutes of the sector coordination meetings 	2
The PlaMS has been adjusted based on implementation experiences to ensure it fully serves its purposes	<ul style="list-style-type: none"> Reports generated by PlaMS at central and local levels Reports on adjustments made to the Programme 	2
Steps towards institutional strengthening of the Ministry has started in light of the recommendations of the study	<ul style="list-style-type: none"> MOAF progress report on restructuring and institutional strengthening 	2
MOAF continues to carry out capacity development measures at central and local level as per HR development study	<ul style="list-style-type: none"> MOAF training report 	1
Recommendations on the mitigation of the effects of climate change (as per NAPA or more recent studies) are considered during formulation of RNR 11 th FYP	<ul style="list-style-type: none"> Draft of the RNR 11th FYP 	1

4.9 Progress with Meeting Performance Assessment Targets in 2011 (based on 2010 data)

Performance of PAF in 2010 (reported 2011): Since this is the start up year for the EU-funded RNRSP, the establishment of a tracking system for monitoring performance of the 9 PAF indicators is a pilot exercise, since the data tracked refer to the period before the signing of the FA in April 2011 and prior to the release of any funds by EU. This pilot exercise allows RGOB to assess how the tracking system would operate from the next budget year starting July 2012.

Table 4.8 on next page indicates that out of the 9 PAF indicators 5 achieved targets fully, 1 achieved a target that was not set in the plan, two did not achieve the target set and 1 could

not be measured due to poor data from the Agriculture Statistics Survey 2010. Details of trends and comments on the performance for each indicator are described in each of the updated *Indicator Fiches* using trend data up to 2010 that have been rated as reliable by the Statistician/Programmer at PPD in the MOAF.

Attention needs to be paid to the quality of data sources particularly the Annual Agriculture Statistics Sample Survey and the Annual Livestock Statistics Census to ensure accurate and precise data collection by enumerators in the field. The lack of data to measure the horticulture indicator is due to failure to collect information on sales of horticulture crop production and the estimates of crop value properly. Capacity building in statistics, data analysis, and data interpretation is required at four levels: at the management level, at the IMS in each Department, at the Dzongkhag level, and at the RNR units in the Gewog where most of the enumerators are based.

The Special Conditions indicators are relevant when there is to be a variable tranche budget release. The first one is not due until September/October 2012; however, the data for measuring the Special Condition weighted score are inserted below to show the process required.

Table 4.8: Overview of Performance under the PAF Review 2011 (using 2010 performance data)

Sector	Targets fully Achieved	Targets partially achieved	Targets not achieved	Score (%)
PAF Indicators	5	4	0	
Food Security				
Rice production		1		94.1
Milk production	1			108.0
Income Generation				
Horticulture production		1*		-
Meat production		1		87.2
Environmental Conservation				
Organic farming	1			105.0
Forest cover	1			100.7
Service Delivery				
Integrated marketing facility (OSFS)	1			100.0
Access to roads		1		90.7
Enabling Environment (Acts, Policies, Strategies)	1			**
Special Conditions Indicators	1	0	4	25.0 (weighted score)
Institutional Strengthening				
Donor coordination			1	
National planning and monitoring			1	
Human resources development	1		1	
Capacity building			1	
Cross-cutting issue integration (climate change)			1	

* Data validation required from 2010 Agriculture Statistics Survey

** Target not expected in this year

Using Performance Monitoring Data for Triggering Tranche Releases: According to the Financing Agreement (EC, 2011), the timing of EC budget releases under the RNRSP should be close to an optimum situation, provided that the PAF Annual Progress Report and Joint Annual Review for the RNR Sector are achieved and approved early in the first quarter of the relevant budgetary year (see Table 4.9 on next page). The EC also undertake to

provide any scheduled variable tranche at the same time as the fixed tranche, provided that the report on progress with indicators under the Special Conditions is favourable. The Policy and Planning Division in the MOAF will coordinate the reporting on performance with outputs and outcomes defined in the PAF for the previous year (T-1) and the Secretary's Office at MOAF will arrange for the Joint Annual Review (for year T-1) together with the EC Delegation in New Delhi.

The Policy and Planning Division in the MOAF will prepare an Annual *Progress Report on the Performance Assessment Framework (PAF) for the RNRSP*. This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the *RNRSP Financing Agreement* and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release.

It is envisaged that, in September 2014, a *RNRSP Terminal/Final Progress Report* would be prepared concerning the whole RNRSP budget support process to aid in any future new RNRSP budget support agreements with either EU and/or multi-donors.

Table 4.9: RNR Sector Budget Support Review and Disbursement Calendar for Bhutan

Responsible Coordinator	Q1	Q2	Q3	Q4	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Q1	Q2	Q3	
	Year T-1				Year T												Year T+1			
Policy & Planning Division MOAF	Performance Year for Assessment of Outputs and Outcomes				PAF Annual Progress Report for Year T-1							PAF Half-Year Progress Report for Year T								
Secretary's Office MOAF						SBS Joint Annual Review for Year T-1							SBS Half-Year Review for Year T							
EC Delegation New Delhi							SBS Disbursing Decision & Tranche Release for Year T													
National Budget Department MOF					RBOG Budget Release for Year T						RGOB Annual Budgeting for Year T+1		RGOB Budget Consultation Approval for Year T+1				RBOG Budget Release for Year T+1			
MOAF Focal Point GNHC													RNR Donor Coordination Meeting							
Budget Department MOAF																		Financial Progress Report for Year T		
Audit Commission																				Annual Audit for Year T

5 CONCLUSIONS

Policy and Strategic Framework

1. The policies for the RNR sector are defined in the long term plan known as Vision 2020 (covering the period 2000-2020) and in the 10th Five Year Plan; the latter was examined in the Mid Term Review in 2010. The recent Prime Minister's initiative for Accelerating Bhutan's Socio-Economic Development (ABSD) has re-prioritised some of the RNR policy areas for the remainder of the 10th FYP. However, the policies in the RNR sector have remained broadly the same throughout the 10th FYP so far, although the policy emphases and strategies for achieving them may have changed.
2. The policy objectives of the RNR sector for the 10th Plan remain as: (i) To enhance sustainable rural livelihoods through improved agricultural and livestock productivity and expansion of commercial prospects of agriculture and other natural resource endowments; (ii) To conserve and promote sustainable commercial utilization of forest and water resources; (iii) To promote sustainable utilization of arable agriculture and pasture land resources; (iv) To enhance Food Security through sustainable and enhanced food production and availability, improved access to food and enabling effective distribution, marketing and import of food; and (v) To transform subsistence agriculture to small scale commercial agriculture without compromising food security.
3. The policy objectives of the RNR sector under the 10th FYP are also linked to the various themes ultimately contributing to the realization of Gross National Happiness (GNH). The major linkages to GNH pillars for the RNR sector are reflected below:

GNH Pillar 1: Equitable & Sustainable Socio-Economic Development: Theme 1.1: Food security; Theme 1.2: Income Generation; Theme 1.3: Employment Generation
GNH Pillar 2: Environmental Conservation: Theme 2.1: Access to Natural Resources; Theme 2.2: Biodiversity Conservation
GNH Pillar 4: Good Governance: Theme 4.1: Service Delivery; Theme 4.2: Enabling Policy & Legal Environment; Theme 4.3: Common Services.
4. There have been several changes in the organisational set-up within MOAF since the formulation mission for RNRSP was carried out in March 2010. A new Department was created, the Department for Agricultural Marketing and Cooperatives. A new division was created in the Department of Livestock (DOL), namely, the Dairy Development Division. In the Department of Forest and Park Services (DOFPS) there are three new divisions: Watershed Management Division, Wildlife Conservation Division, and Natural Recreation and Tourism Division. One division changed its name to Forest Protection and Enforcement Division. Other divisions changed their names in the Council for RNR Research. The creation of these new divisions also indicates the varying new emphases placed on certain policy areas within the MOAF.
5. Policies that are supported through the RNRSP remain as: (i) Food Security by increasing rice production and increasing milk production; (ii) Income Generation by increasing incomes from horticultural crops and from meat production; (iii) Access to Natural Resources by stabilising forest (tree) cover and increasing the number of producers of organic RNR products; (iv) Service Delivery by increasing the number of functional One Stop Farmers' Shops (OSFS); (v) Common Services by increasing the proportion of households within easy access of a road head; and (vi) Enabling Instruments by increasing the number of Acts, Policies and Strategies that are prepared and approved. These policies remain valid at the start of the RNRSP in financial year 2011-2012.

6. Strong emphasis was placed on the organic programme in a statement made by the Prime Minister in March 2011. The policy on OSFS has been the subject of a potential integration process with the Community Centres (CC) under Ministry of Information and Communication (MOIC) following a Joint Cabinet and Committee of Secretaries meeting last September 2010; however this merger is being strongly resisted by MOAF since the functions of the CC are totally different from those of the OSFS.

Institutional setting and capacity building

7. Progress with the RNR institutional setting and capacity building are the key elements of performance monitoring that relate to the release of Variable Tranches in 2012 and 2013. There are five institutional indicators: donor coordination, national planning and monitoring system (PlaMS), human resources development plan, capacity building implementation, and cross-cutting issues (in this case climate change). These remain valid for the remainder of the 10th FYP.
8. There has been significant progress with only one of these indicators, namely the launching of the PlaMS; however, its use at MOAF during the last two financial years 2009-11 has been partial at best. There have been a number of teething problems to PlaMS implementation, ranging from original programme design elements, data entry errors, and compliance with reporting.
9. Progress with establishing a RNR sector donor coordination mechanism has not taken place yet, although there is a willingness by GNHC and MOAF to work towards this.
10. Analysis of the current situation with HR distributions in MOAF shows that: (i) amongst the four RNR departments the staff allocations are DOFPS (46.2%), DOA (20.6%), DOL (19.4%) and DAMC (1.2%); (ii) 16.9% of the staff is female and most of these are categorised as support staff; (iii) more than half (57.08%) of the total staff in the RNR Sector is concentrated in Central Programs, a further 15.02% is at headquarters, leaving 27.9% at Dzongkhag or Gewog levels; and (iv) 60.9% of staff are support staff. The total staff list at MOAF reached 3169 in June 2011.
11. Terms of reference have been drafted for a study that should lead to a HRD Master Plan; however the TOR tend to focus more on needs assessment (reflected in the TOR title). The Secretary at MOAF has noted this and instructed the HRD to reflect the needs for a comprehensive overhaul of the HR situation in the Ministry. A full HRD Master Plan should encompass: an Organisational Restructuring Plan, a Personnel Management Plan, a Training Needs Assessment (TNA), and an Integrated Training Plan for the entire MOAF.
12. Current capacity building in MOAF is based on a *Training Plan* prepared for the 10th FYP and its up-date after the MTR and is in the form of an Excel spreadsheet. The plan does not appear to rely on a thorough needs assessment across agencies. The *Training Plan* prepared by the HRD comprises slots for PhD (8), Masters (51), PG Diploma (147), PG Certificate (78), Bachelors (2), Diploma (26), and Short-term (312). Up to the MTR the emphasis has been on PhD (13), Masters (25), Bachelors (2), and Short-term training (975). Total trained by the MTR was 1015 staff.
13. There has been some progress with the cross-cutting issue, climate change; MOAF is acting as the Secretariat for the *Climate Change Summit for the Living Himalayas Bhutan 2011* from 17-19 November 2011 and an output from this summit is expected to be a comprehensive set of climate change indicators relevant to the eastern Himalayas.

Performance Monitoring

14. The assessment of performance monitoring in MOAF, carried out during this mission, has focused on three key areas, namely, the status of M&E in the MOAF, the use of PlaMS in MOAF, and the validation of the PAF in the FA to the RNRSP.
15. Despite various M&E consultancies over the past 20 years or so, M&E has not established itself well within MOAF. The words monitoring and evaluation do not appear anywhere in the MOAF organisation chart and there are no sections within divisions that have this name. Instead, there are three Information Management Sections (IMS) in the three key departments of Agriculture, Livestock, and Forests and Park Services, and the new Department of Agricultural Marketing and Cooperatives has yet to establish an IMS. The Council for RNR Research in Bhutan has its own IMS.
16. Staffing in the IMS sections is very limited with one staff member in DOA, one in DOL, two in DFPS and none in DAMC which has yet to set up an IMS. Despite the small number of staff in the IMS, they are often called to carry out other duties in other divisions.
17. The situation with M&E across all agencies in MOAF is elucidated in the HR training plan set at the start of the 10th Five Year Plan. Although there were more than 200 training packages listed, there were no trainings specifically planned for M&E. One short course was envisaged for two staff at CORRB in Project Cycle Management and Evaluation. In the DOA two training packages were planned related to data gathering for the Annual Agricultural Statistics; one for Dzongkhags on data processing (100 staff) and the other on preparing the Annual Agricultural Statistics Report (5 staff from IMS and the Dzongkhags). After the Mid Term Review, the situation slightly improved with a specific short course added in M&E for three staff at the PPD.
18. The IMS are primarily geared to either statistics gathering on key sector production targets leading to the publication of Annual Statistics Reports or on centrally managing administrative databases based on data provided by field offices e.g. the Forest Information Management System (FIMS) which compiles data from forestry field stations. They also have a role in monitoring use of PlaMS; this appears to be only active in DOL.
19. The mandate for designing and launching the National Planning and Monitoring System (PlaMS) was designated to the GNHC, and GNHC included a budget in the 10th FYP for strengthening the planning, monitoring and evaluation system throughout all agencies in Bhutan. The PlaMS was launched in July 2008, and was tested using 2009-2010 budget data.
20. Each of the RNR programme managers was responsible for preparing a programme planning and monitoring profile at the beginning of the 10th FYP which followed the concept of Results Based Monitoring (RBM). The profile includes four tables covering the following areas: (i) a programme results matrix; (ii) a programme activities matrix; (iii) a programme financial outlay matrix (including type and source of funding); and (iv) a monitoring and evaluation plan matrix. Each management unit in MOAF (division, centre, and programme) appointed a Focal Point for PlaMS who was then to train other staff. The training focussed on how to input data and how to generate reports in the PlaMS based on the *PlaMS Operating Manual*; however there was little training provided on RBM and this resulted in many management centres entering monitoring indicators that were poorly defined and not measurable due to lack of both available source data and baselines or reference points. Consequently, guidance on the PlaMS relates mostly to

screen by screen data entry processes rather than how to produce indicators which are SMART (Specific, Measurable, Accurate, Reliable and Time-bound).

21. PlaMS has not been used effectively at most divisions, centres, or programmes within MOAF so far. Reporting by almost all divisions and programmes for FY 2010-2011 had not been carried out by end September 2011.
22. A number of problem areas have been identified by the programme managers and IMS staff when using PlaMS. These have included: (i) unclear and ambiguous indicator definitions leading to difficulties finding data sources; (ii) use of baselines that are not considered reliable (have not been taken from a reliable source) or are manipulated due to perceptions on what datum a baseline should be; (iii) confusion when entering plan targets which resulted in some targets reducing rather than increasing; (iv) data entry problems when targets were entered using alpha-numeric entries rather than numeric ones resulting in rejection of data when aggregating to a higher level for reporting; (v) entering data, when two or more activities have the same name, resulting in rejection of previously entered data; (vi) problems with security since only one user's name and password were used in MOAF; (vii) when multiple users were logged on this slowed down the system considerably; (viii) trained Focal Points and Programme Managers were transferred and their replacements were not trained in PlaMS; (ix) some Programme Managers centralised data entry in Thimphu in order to better control data entry and reporting compliance whereas others decentralised data entry to farms or field stations; (x) electricity outages and internet network slowness or failure at critical times for data entry at field stations; (xi) refresher training has not been carried out so far; and (xii) low motivation levels amongst staff responsible for using PlaMS to enter data into the system in a timely fashion.
23. Without performance indicators being entered into PlaMS it is difficult to reliably and comprehensively track implementation progress. Printouts of the Annual Report for FY 2010-2011 made from PlaMS at the end of September 2011 clearly showed non-compliance with reporting across most agencies in MOAF.
24. It is not possible to use PlaMS to gain progress on financial expenditures in MOAF due to lack of data entry. Financial information from the MTR showed that only 59% of the capital budget compared to 84% of the recurrent budget for the first two years of the 10th FYP had been used at MOAF.
25. There are nine performance indicators in the PAF which are part of the FA to the RNRSP, and each relates to key policy areas in the RNR 10th FYP. There was a clear need to validate them in terms: (i) of the clarity and ambiguity of definitions; (ii) of the accuracy and relevance of baselines; (iii) of the setting of target trends and achievability of targets; and (iv) of the availability of reliable data sources.
26. Two monitoring tools for tracking the PAF indicators have been prepared: a *Summary Annual PAF Reporting Sheet* and nine *Indicator Technical Fiches*, one for each PAF indicator. These tools, when up-dated annually, can be used to promote dialogue during the Joint Annual Review for RNRSP, leading to the triggering of budget releases. Based on these tools, the Performance Assessment Framework (PAF), in the Financing Agreement has been validated in order to make the indicators more SMART. A revised Appendix 1 to the FA has been prepared for consideration by the EU.
27. Five of the indicators in PAF require reliable survey data in order to track trends using the *Annual Agricultural Statistics Survey* and the *Annual Livestock*

Census; improvements to data management are required at DOA and DOL in order to achieve more reliable data sets.

28. One indicator requires provision for funding a forest/land cover survey to be based on use of ALOS (10 meter resolution) and Quick Bird (1 meter resolution) satellite imagery, the latter in sample/control areas, from 2011 and 2012 data, as well as field validation surveys to be made. Results should be ready in time for budget releases under RNRSP in July 2013.
29. Two indicators require the establishment of new comprehensive/integrated databases at NOP and DAMC. Both agencies may need help in setting up these databases. The can be done by the statistician/programmer at PPD or it can be outsourced.
30. The indicator on the status of enabling instruments in the RNR Sector needs to be tracked using an Excel spreadsheet at PPD. This is the simplest of all the indicators to be tracked.

6 RECOMMENDATIONS

Policy and Strategic Framework

1. Strong support is required from MOAF decision-makers for: (i) Ensuring strategies that will contribute to achieving the PAF indicator targets are clearly identified by the concerned agencies; (ii) Ensuring that adequate resources are provided and used for the strategies in order to achieve the indicator targets; (iii) Internalising effective M&E systems within PPD and IMS; (iv) Establishing a compliance framework for the use of PlaMS and reporting within all agencies in MOAF; and (v) Strengthening of statistical data gathering to ensure more reliable data collection, processing and analysis.
2. On the assumption that the RNR policies supported under RNRSP remain valid and are supported by RGOB until the RNRSP ends in June 2014, the focus should remain on the strategic framework for achieving the targets set for each performance indicator. The Focal Points for each PAF indicator therefore need to prepare resource plans that match the aim of achieving the set targets. It is expected that the ABSD re-prioritising of the 10th FYP policy areas will not negatively affect the achievement of PAF targets in the Financing Agreement. Resource plans that include non-relevant or non-correlating activities should be avoided.
3. Under the RNR Strategic Framework, the main strategies for achieving increased rice production should include: (i) support to increasing crop yields in traditional rice growing areas (through subsidised mechanization, training in improved agronomic practices, plant protection, and post harvest processing); (ii) expansion of irrigated areas by converting dryland farming areas to rice production (especially in lower altitudes); (iii) initiation of double rice cropping in suitable areas; (iv) support to rice growing in higher altitude areas as a result of climate change; and (v) commercialisation of rice farming by providing rice processing plants to farmers groups and cooperatives.
4. The main strategies for achieving milk production targets should include: (i) breed improvement schemes through artificial insemination services; (ii) fodder development through enriching crop by-products; (iii) improved animal health care practices at farm level; (iv) promoting the adoption of feed blocking equipment and mini-feed mills; and (v) establishment of new dairy plants to encourage local farmers to increase milk production for sale.
5. The main strategies for reaching the annual horticultural target of increasing percentage of farmers earning more than BTN 50,000 per year from sale of horticultural crops (fruit, nut or vegetable) should include: (i) expansion of vegetable growing in 7 Dzongkhags to supply 10,000 labourers working at the construction sites for 3 large hydro-electric power stations for at least 10 years; (ii) establishing marketing linkages for new crops such as passion fruit and *amla* (Indian Gooseberry) ; (iii) provision of high quality and disease-free seed and seedlings to farmers; (iv) up-scaling the size and number of greenhouses; (v) intensive training of Gewog RNR extension staff who are responsible for implementing the OGTP ('*One Gewog Three Products*') policy; and (vi) diversification into new varieties and new crops to capture potential new markets.
6. The main strategies for increasing the production of domestic meat production should include: (i) to focus on the more socially acceptable meat products, namely pork, goat, chicken and fish; (ii) to focus efforts in southern Bhutan where there are less social restrictions on producing meat; (iii) to remove unproductive dairy cow stocks and replace with new more productive breeds; (iv) to support the establishment of small meat market outlets in each Gewog (where there is a demand for meat) to generate small meat

surpluses at the local level and help improve local nutrition levels; and (v) to encourage the private sector start-up processing plants for pork products.

7. The main strategies for increasing the number of farmers involved in production, processing and marketing of organic RNR products should include: (i) sensitising local farmers to form organic RNR groups and training them on commodities only when they show sufficient interest in the organic approach to RNR production; (ii) adopting a commodity approach for niche products mainly targeted at local and international markets; (iii) adopting a high value and low volume RNR product; (iv) adopting contract growing in suitable areas with the aim of 3rd party certification for export market and PGS certification for domestic market; and (v) encouraging formation of organic processing and marketing enterprises/cooperatives in strategic parts of Bhutan.
8. The main strategies for stabilising forest (tree) cover at 70% for the medium term should include: (i) effective protection and enforcement in all government forest areas; (ii) establishment of foot patrol monitoring systems in hot-spot encroachment areas; (iii) planting trees in degraded forest areas through social forestry and watershed management activities; (iv) establishing an inter-sectoral monitoring system to track forest losses due to hydro-power schemes, road construction, settlement expansion, agricultural encroachment and illegal logging etc.; (v) assessing the potential for forest and shrub expansion in high altitudes as a result of climate change effects; (vi) mass-campaigns on creating awareness of the need for maintaining forest cover for human habitat, environmental and biodiversity reasons; (vii) screening of all new Acts that involve land use change and ensuring that the forest rights are not contravened.
9. The main strategies for increasing the numbers of functioning One-Stop Farmers' Shops should include: (i) Using un-utilized government structures such as Gup Offices or RNR centres where the existing facilities can be used through minor rectification works; (ii) identifying interested local operators who can be registered Farmers Groups/Cooperatives, unemployed youth, Commission Agents/SSRs or local retail shopkeepers; (iii) provision of a grant to provide inputs worth up to BTN 50,000 (or in kind) as a start-up capital to encourage local operators to join the OSFS scheme; (iv) provision of shop equipment including tables, chairs, racks, shelves, other furniture for display of inputs and information materials (other equipments & services like computers & printers with internet facility, fax, telephone etc. may also be provided).
10. The main strategies for increasing the length of farm access roads should include that: (i) every kilometre of road constructed should benefit at least 7 households; (ii) farm road should be constructed only where post construction maintenance agreements are made with the local Gup or households group; (iii) farm access roads should not be constructed in environmentally sensitive areas; and (iv) where the above cannot be met then improved footpaths/trails can be considered as an alternative.
11. The main strategies for achieving the final approval of Enabling Instruments such as Acts, Policies and Strategies should include: (i) sensitisation of stakeholders at central agencies and at local government level; (ii) accurate and valid research documentation to back up the veracity of content in each enabling instrument; (iii) an assessment of the ability to implement the instrument in the Bhutanese context.

Institutional Setting and Capacity Building

12. There is a need to establish the type of donor coordination mechanism needed in the RNR sector in Bhutan. Given that many donors do not have a presence in Bhutan (including EU), setting up a RNR Donor Coordination Mechanism may be problematical

from a logistical viewpoint. It is suggested that the GNHC prepare a working paper on forming a donor coordination group, including what are the expected outputs from such a group. The paper should include the remit of the donor group, the membership, and the issues to be addressed by the group. The group may be sub-divided into working sub-groups on specific RNR topics. The donor mechanism should not just be a talking shop.

13. The PlaMS is highly relevant to the success of the 10th FYP and the future 11th FYP. Since the GNHC was responsible for the launch of the system, it is suggested that they carry out a *PlaMS User Needs Assessment* in the form of a questionnaire to identify the key areas needed for up-grading the system. Recommendations relevant to MOAF are mentioned under Performance Monitoring below.
14. Since the *Human Resources Master Plan* study will require up to six months to complete, it is essential that this is started with immediate effect; otherwise there will be a failure to include progress on it in the Joint Annual Review for RNRSP in August/September 2012 leading to possible failure to access the variable Tranche fully. To avoid any possible local bias in the study when using local consultants, it is recommended that an independent international HR expert be hired to lead the team for the study. In formulating this study experiences from the former EU-funded HRD project that was implemented from 1991-1996 should be taken into account.
15. Until the *Human Resources Development Master Plan* is completed, it is suggested that there should be no re-structuring within MOAF. The Organigram at MOAF has changed several times since the start of the 10th Five Year Plan, and this can cause disruption and lack of confidence amongst staff. The latest Organigram posted on the Ministry's web-site is very complex with large numbers of centres and units in addition to the divisions. Programme offices are not included otherwise the Organigram would be even more complex. It is clear that there is a need for some kind of rationalisation across the MOAF agencies.
16. A large number of training slots have still to be used up by the HRD at the MOAF before the end of the 10th FYP. It is suggested that a review of training needs take place for these during the study for the *Human Resources Development Master Plan*. Consideration should be given to using some of the PG Diploma slots for statistics, data management, and M&E training for PPD and existing/new IMS staff.
17. After the *Climate Change Summit for the Living Himalayas Bhutan 2011*, there will be a set of indicators prepared for inclusion and mainstreaming in the 11th FYP. It is suggested that a rigorous peer review of these indicators be carried out to ensure that their integration and correlation with current and future RNR activities is sound and relevant.

Performance Monitoring

18. IMS staffing should include at a minimum: (i) a Senior Statistician/ Programmer responsible for validating Annual RNR Statistics Reporting as well as acting as the IT focal point in the department, (ii) a Data Manager for monitoring use of PlaMS and establishing/managing the department's integrated information management system similar to FIMS in the DOFPS, and (iii) an M&E officer responsible for carrying out special M&E surveys related to outcome/impact studies and for participatory M&E with the MOAF key clients, the farmers in Bhutan.
19. Consideration should be given to changing the name of IMS to Information, Monitoring and Evaluation Section (IMES) as part of the *HRD Master Plan* to be carried out during

- 2011-2012. Each section should be directly under the Director's office in each department.
20. In order to ensure adequate use of PlaMS across all agencies in MOAF there is a need to factor in an element of compliance to ensure accurate data entry and reporting on time. This could be in the form of incentives for good reporting, penalties in the form of non-release of budget, or the institutionalisation of a PlaMS day every month when staff will enter data free from their other duties.
 21. The IMS in each department needs to be strengthened with more staff and with refresher training of existing staff in use of PlaMS, as well as M&E, statistics, data management and programming.
 22. Where the officers concerned with PlaMS in MOAF agencies have been transferred then the new officers need training as a matter of urgency. Training should also be provided in statistics, data management, and results based monitoring (RBM).
 23. The reporting on progress up to 2010-11 had still not been entered into PlaMS at the time of this mission for most divisions, centres and programmes within the four MOAF departments. This needs to be followed up by the PlaMS focal points at PPD as a matter of priority.
 24. Improvements in the planning for statistical data management can be achieved through carrying out an *Information Needs Assessment* in the RNR sector. This will help to streamline the Annual Statistical Survey and the content of PlaMS. This can be carried out by the PPD together with IMS staff in each department.
 25. A *RNR Statistical Legal Framework* should be prepared that covers all agencies within MOAF and provides clear mandates for all data sources. Following this a restructuring of the statistical data management systems can take place within MOAF; this can be carried out jointly with, or supported by, the *Human Resources Development Master Plan*.
 26. In order to improve statistics quality and data management there will also be a need to increase staffing levels at the PPD and each of IMS under DOA, DOL, DOFPS, and DAMC.
 27. Provision of training to staff at PPD and IMS in statistics, questionnaire formulation, data management, and programming initially through a 1 month overseas training course is required, and thereafter PG Diploma courses should be accessed initially for the heads of each IMS and thereafter progressively for all the IMS staff.
 28. A *TOT Manual on Statistics and RNR Questionnaire Management* should be prepared and staff at IMS be trained in using the manual for training field staff.
 29. Provision of annual/ bi-annual central training to all RNR staff at Gewog and Dzongkhag levels who are involved in enumeration of data for agriculture, livestock and forestry and to sensitise them in the importance of accurate and timely data collection. This training can be provided by IMS staff after they have completed the TOT course.
 30. Strengthening of the data management systems at NOP and DAMC is required; this can be done by PPD or outsourced as required.

31. Although the PAF indicators have been validated at the start of the RNRSP in September 2011, it is highly recommended that a annual/half-yearly review exercise take place by the PAF Indicator Focal Points together with statisticians at PPD and IMS (when appointed) to analyse the situation with data gathering and the behaviour of trends.
32. The annual up-dating of PAF indicators under the RNRSP will be highly dependent on strengthening of the IMS at the PPD and in the four departmental IMS, and on improved data management.
33. Finally, there is a need to adjust the FA in the light of the changes to the PAF indicators proposed in this report and agreed with RGOB during the mission.

TECHNICAL ANNEXES

Annex 0: Documents Consulted During Mission

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Annex 1: RNRSP Correlation with Current Policy Areas

GNH Macro Policies Pillars and Themes		RNR Sector Policies	RNRSP Performance Assessment Framework	RNRSP PAF Indicator Focal Point	Key RNR Programmes Supporting Achievement of RNRSP PAF in 10th Five Year Plan
Pillar 1: Equitable and sustainable socio-economic development	Theme 1.1: Food Security	RNR Policy 4 To enhance food security	RNR 01 Total rice production	Agriculture Division, Department of Agriculture	Key RNR Programme: 01: Arable Agriculture Commodity Development Supporting RNR Programme(s): 02: Post Harvest Management 03: Integrated Pest Management 04: Irrigation & Water Management 05: Seed and Plant Development 10: Rural Access 11: Farm Mechanization 12: Extension Coordination and Information Management 25: RNR Research 26: Rural Development Training 27: Agriculture Marketing and Cooperatives 28: Bio-security and Quality Assurance
			RNR 02 Total milk production	Dairy Development Division, Department of Livestock	Key RNR Programme(s): 16: Livestock Production (dairy part) 17: Targeted Highland Livelihood Support (dairy part) Supporting RNR Programme(s): 10: Rural Access 13: Feed & Fodder Development 14: Livestock Health & Laboratory Services 15: Livestock Breeding and Input Supply 25: RNR Research 26: Rural Development Training 27: Agriculture Marketing and Cooperatives* 28: Bio-security and Quality Assurance
	Theme 1.2: Income Generation	RNR Policy 1 To enhance sustainable livelihoods	RNR 03 Horticulture cash cropping adoption	Horticulture Division, Department of Agriculture	Key RNR Programme: 06: Horticulture/Cash Crop Development Supporting RNR Programme(s): 02: Post Harvest Management 03: Integrated Pest Management 04: Irrigation & Water Management 05: Seed and Plant Development 08: National Medicinal and Aromatic Plants 10: Rural Access 11: Farm Mechanization 12: Extension Coordination and Information Management 25: RNR Research 26: Rural Development Training 27: Agriculture Marketing and Cooperatives 28: Bio-security and Quality Assurance

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GNH Macro Policies Pillars and Themes		RNR Sector Policies	RNRSP Performance Assessment Framework	RNRSP PAF Indicator Focal Point	Key RNR Programmes Supporting Achievement of RNRSP PAF in 10th Five Year Plan
			RNR 04 Total meat production	Livestock Production Division, Department of Livestock	Key RNR Programme: 16: Livestock Production (meat part) Supporting RNR Programme(s): 10: Rural Access 13: Feed & Fodder Development 14: Livestock Health & Laboratory Services 15: Livestock Breeding and Input Supply 25: RNR Research 26: Rural Development Training 27: Agriculture Marketing and Cooperatives 28: Bio-security and Quality Assurance
Pillar 2. Environmental Conservation	Theme 2. 1: Access to natural resource and biodiversity conservation	RNR Policy 3 To promote sustainable use of arable agriculture and pasture land resources	RNR 05 Organic Renewable Resources	National Organic Programme, Agriculture Division, Department of Agriculture	Key Programme: 07: Organic/Natural Agriculture Supporting RNR Programme(s): 09: Integrated Soil Fertility & Sustainable Land Management 10: Rural Access 25: RNR Research 26: Rural Development Training 27: Agriculture Marketing and Cooperatives 28: Bio-security and Quality Assurance
		RNR Policy 2 To conserve and promote utilization of forest and water resources	RNR 06 Forest (Tree) Cover	Forest Resources Management Division, Department of Forestry	Key RNR Programme: 20: Forest Resources Development Supporting RNR Programme(s): 18: Participatory Forestry 19: Non-Wood Forest Resources Development 21: Watershed Management and Plantation 22: Forest Protection 23: Nature Conservation 24: Forestry & Environmental Education 29: National Biodiversity Conservation
Pillar 4. Good Governance	Theme 4.1: Service Delivery	RNR Policy 1 To enhance sustainable livelihoods	RNR 07 'One-Stop-Farmer Shops'	Farmer Group and Cooperatives Management Division, Department of Agriculture Marketing and Cooperatives	Key RNR Programme: 27: Agriculture Marketing and Cooperatives Supporting Programme(s): 10: Rural Access
	Theme 4.3: Common Services		RNR 08 Road Access	Engineering Division, Department of Agriculture	Key RNR Programme: 10: Rural Access

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GNH Macro Policies Pillars and Themes		RNR Sector Policies	RNRSP Performance Assessment Framework	RNRSP PAF Indicator Focal Point	Key RNR Programmes Supporting Achievement of RNRSP PAF in 10th Five Year Plan
	<u>Theme 4.2:</u> Enabling policy and legal environment	<u>No specific policy</u>	RNR 09 Enabling Institutional Instruments	<i>Policy and Planning Division, Ministry of Agriculture and Forests</i>	<i>Key RNR Institutional Support:</i> <i>Policy and planning development</i> <i>Other Institutional Support(s):</i> <i>Human resources development Public financial management Monitoring and evaluation</i>

Annex 2: Validation of PAF Indicators in FA (EC, 2011ii) Using Selected SMART Criteria

PAF Indicators											
	Correlates with Existing Policy	Logically Links to Results Expected	Specific & Clear Definition	Easily Measurable	Accuracy of Data	Realistic & Feasible to collect	Consistency of data over time	Synchronisation with user needs	Available Data Source	Reliable Baseline	Realistic Projections/Targets
Rice production	1	1	2	1	2	1	2	1	1	2	2
Milk production	1	1	2	1	2	1	2	1	1	3	3
Horticulture production	1	1	3	1	2	1	2	1	1	3	3
Meat production	1	1	2	1	2	1	2	1	1	2	1
Organic farming	1	1	3	1	1	1	1	1	2	1	3
Forest cover	1	1	1	1	2	2	2	3	2	1	1
One-Stop Farmer Shop	1	1	2	1	1	1	1	1	1	1	1
Access roads	1	1	2	1	2	1	2	1	1	3	2
Enabling Instruments	1	1	1	1	1	1	1	1	1	1	1
	1	Indicator within limits of acceptable validity for specific criteria									
	2	Indicator partially within limits of acceptable validity for specific criteria (improvement required)									
	3	Indicator not within limits of validity for specific criteria (improvement required)									

Annex 3: Congruence of PAF Indicators Across Various Planning Instruments

COMPARISON OF RNR SECTOR PROGRAMME SUPPORT PLANNING INSTRUMENTS				
10 th FYP 2008	10 th FYP MTR June 2010	RNRSP Action Fiche 2010	RNRSP Financing Agreement April 2011	Start-up RNRSP Validated PAF September 2011
Rice production increased from 54,325 MT to 62,474 MT by 2013	Rice production increased from 74,438 MT to 78,000 MT by 2013	Rice production (baseline 54,388 MT per year in 2008-09) increases to 62,474 MT per year by 2013 (yearly target is approximately 2000 MT)	Rice production (baseline 54,325 MT per year in 2007) increases to 62,474 MT per year by 2013 (yearly target is approximately 2000 MT)	Total paddy rice production increasing <u>Baseline:</u> Annual Agriculture Survey 2007=74,438 MT <u>Target:</u> 2013=78,000 MT
Increased dairy production from 7,179 MT to 7,897 MT by 2013	Increased dairy production from 31,991 MT to 33,476 MT by 2013	Milk production (baseline 22,882 MT per year in 2008-09) increases to 25,170 MT per year by 2013	Milk production (baseline 7,179 MT per year in 2008-09) increases to 7,897 MT per year by 2013	Total milk production (cattle, yak, buffalo) increasing <u>Baseline:</u> Annual Livestock Census 2008=22,882MT <u>Target:</u> 2013=25,170MT
Proportion of farmers engaged in horticulture export cropping increased from 10-20%		Percentage of farmers engaged in horticulture export cropping/cash crop production (baseline around 15% in 2008-09) increased to 25% by 2013	Percentage of farmers engaged in horticulture export cropping/cash crop production (baseline 10% in 2007) increased to 25% by 2013	% of farmers earning more than NGU 50,000 per annum from selling horticulture crops (fruit, nut, vegetable) is increasing <u>Baseline:</u> RNR Census- 10 year 2008=32.5% <u>Target:</u> 2013=37.5%
Increased meat (poultry, pork, beef and fish) production from 2,001.7 MT (baseline 2007) to 2,202 MT by 2013	Increased meat (poultry, pork, beef and fish) production from 1,217 MT (baseline not specified) to 2,520 MT by 2013	Meat production (pork, beef, yak, chicken, mutton, fish) increases from 1750 MT in 2008-09 to 1785 MT per annum by 2013	Value of livestock production (baseline BTN 550 million in 2007) to BTN 600 million per year by 2013	Total meat (pork, beef, yak, chicken, mutton, fish) production stabilized <u>Baseline:</u> Annual Livestock Census 2009=1,750 MT <u>Target:</u> 2013=1,785 MT
Proportion of rural households adopting organic farming principles increased from 1.5% to 10%	Number of rural households adopting organic technology from 450 (baseline not specified) to 3,650 by 2013	Proportion of rural households adopting organic farming principles (baseline 2.0% in 2008-09) increased to 10% by 2013 (increase of approx. 2% per year)	Proportion of rural households adopting organic farming principles (baseline 1.5% in 2008-09) increased to 10% by 2013 (increase of approx. 2% per year)	Number of rural households adopting organic farming principles increases <u>Baseline:</u> Database at NOAP 2008=450 FHH <u>Target:</u> 2013=3200 FHH

COMPARISON OF RNR SECTOR PROGRAMME SUPPORT PLANNING INSTRUMENTS				
10th FYP 2008	10th FYP MTR June 2010	RNRSP Action Fiche 2010	RNRSP Financing Agreement April 2011	Start-up RNRSP Validated PAF September 2011
At least 60% of tree cover for posterity	At least 60% of land area managed under tree cover for all time (BL: 72.7%; Target 72.7%)	Land under vegetative forest cover maintained at a <u>minimum</u> of 60% by 2013	Land under vegetative forest cover to be maintained at a <u>minimum</u> of 60% by 2013. Baseline 2008-09: 72.5% land under forest cover	Land under forest (tree) cover to be maintained at a minimum of 60% as Decreed in the Bhutanese Constitution <u>Baseline:</u> Land Cover Survey 2009=70.5% <u>Target:</u> 2013=>70%
Targets not included in 10 th FYP	Targets not mentioned in MTR	5 new One-Stop-Shops established per year; 40 One-Stop-Shops to be operational by 2013. Baseline 2009: 0	5 new One-Stop-Shops established per year; target in 2013: 40 One-Stop-Shops operational	Number of 'One-Stop-Farmer Shops' established and fully functioning is increasing <u>Baseline:</u> OSFS Database DAMC 2009=0 <u>Target:</u> 2013=50
Proportion of rural population living more than 1 hours walk from a motor-able road head reduced from 40% to 20%	Reduced proportion of rural population more than 1 hour's walk from a road head (BL: 50%; Target 20%)	Proportion of rural population living more than 1 hrs of walk from the road head; baseline 53% in 2008-09 reduced to 20% in 2013.	Proportion of rural population living more than 1 hrs of walk from the road head; (baseline 40% in 2007 reduced to 20% in 2013)	Proportion of rural population living more than 1 hour walk from the road head reducing <u>Baseline:</u> RNR Census 2008=46.4% <u>Target:</u> 2013=20%
		At least 3 RNR Sector Policies, Acts and/or Strategies revised, formulated and implemented by 2013; main focus on National Food and Nutrition Security Policy developed, Forest and Nature Conservation Act revised, National Forest Policy revised, Strategy for protected agricultural land developed and implemented, National bio-diversity policy developed, Strategy for management of non-wood forest products developed and implemented.		

Annex 4: Amended PAF for RNRSP FA (Validated 30/09/2011)

Performance criteria and indicators used for disbursement (Validated 30/09/2011)

The below indicator-result framework will form the basis for the sector performance assessment, which directly serves the appraisal of the third general criteria for tranche release (sector policy and programme performance). During the Annual Review and based on data generated from the PlaMS, it will be measured if significant progress towards the achievement of the targets set for 2013 has been achieved. The results and indicators reflected in the PAF below are selected results and indicators from the RNR 10th FYP. Adjustments to PAF can be made at any time by an exchange of written communication between the FA signatories (EU and GNHC).

GNH Pillar – Overall Objectives	Programme Objective	Results	Selected key indicators
1. Equitable & Sustainable Socio-Economic Development	Enhance sustainable rural livelihoods through improved agricultural and livestock productivity and commercialisation	1.1 Food Security is enhanced	<ul style="list-style-type: none"> Rice production. (Baseline: 74,430 MT per year in 2007) increases to 78,000 MT per year by 2013 Milk production. (Baseline: 22,882 MT per year in 2008) increases to 25,170 MT per year by 2013
		1.2 Increased Income generation	<ul style="list-style-type: none"> Percentage of farming households earning more than BTN 50,000 per annum from sale of horticultural crops is increasing. (Baseline: 32.5% in 2008) increases to 37.5% by 2013 Meat production (aggregated from pork, beef, yak, chicken, mutton, goat, and fish). (Baseline: 1750 MT per year in 2008) increases to 1785 MT per annum by 2013
2. Environmental Conservation	Conserve and promote sustainable utilisation of forest and water resources, arable agriculture and pasture land	2.1 Increased Access to Natural Resources & improved Biodiversity Conservation	<ul style="list-style-type: none"> Number of rural households adopting organic renewable resource technologies and selling organic produce (certified or non-certified) increasing. (Baseline: 450 in 2007) increases to 3200 by 2013 Land under forest (tree) cover to be maintained at a <u>minimum</u> of 60% by 2013. (Baseline: 70.46% in 2008-09) stabilises at 70% by 2013
3. Good Governance	Enhance Good Governance	3.1 Improved Service Delivery & Improved Common Services	<ul style="list-style-type: none"> Number of fully functioning ‘One-Stop Farmers’ Shops’ is increasing. (Baseline: 0 in 2009) increases to 50 by 2013 Proportion of rural population living more than 1 hrs of walk from the road head is decreasing. (Baseline: 47% in 2008) reduced to 20% in 2013.

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GNH Pillar – Overall Objectives	Programme Objective	Results	Selected key indicators
		<p>3.2 Improved Enabling Policy & Legal Environment; framework established and compliance strengthened</p>	<ul style="list-style-type: none"> • At least 3 RNR Sector Policies, Acts and/or Strategies revised, formulated and implemented by 2013; main focus on National Food and Nutrition Security Policy developed, Forest and Nature Conservation Act revised, National Forest Policy revised, Strategy for Protected Agricultural Land developed and implemented, National Biodiversity Policy developed, Strategy for Management of Non-wood Forest Products developed and implemented.

Annex 5: Example of Annual PAF Progress Tracking Sheet

Summary Performance Assessment Framework (PAF) Reporting Sheet for Performance Year 2010 (a pilot example)										
Indicator	Definition (actions required, calculations necessary)	Baseline Value 2008	Target/ Actual	2010	2011	2012	2013	Relationships to GNH 10 th FYP & RNR 10 th %FYP	Data Source(s) (Responsible Institutions or Departments)	Assessment (reasons for variance)
Indicator RNR 1: Total paddy rice production increasing	Improvements to management of Annual Agriculture Statistics Surveys needed	74,430 MT	Target	76,140 MT	76,730 MT	77,300 MT	78,000 MT	GNH Theme 1.1 Food Security RNR Programmed Action MOA/01 Arable Agriculture Commodity	Annual Agricultural Statistical Survey (Information Management Section, Department of Agriculture)	Declining crop yields and flood damage to irrigation schemes. Despite this, actual reached is higher than average over previous 5 years.
			Actual	71,637 MT						
Indicator RNR 2: Total milk production increasing	Improvements to management of Annual Livestock Statistics Census needed	22,882 MT	Target	23,720 MT	24,360 MT	24,770 MT	25,170 MT	GNH Theme 1.1 Food Security RNR Programmed Action MOA/16 Livestock Production (dairying component)	Annual Livestock Statistical Census (Information Management Section, Department of Livestock)	
			Actual	25,650 MT						
Indicator RNR 3: % of FHH earning > BTN 50,000 per year from horticulture crops sales(fruits, nuts, vegetables) increasing	Improvements to management of Annual Agriculture Statistics Surveys needed	32.5%	Target	34.5%	35.5%	36.5%	37.5%	GNH Theme 1.2 Income Generation RNR Programmed Action MOA/06 & 08 Horticulture/Cash Crop Development and National Medicinal and Aromatic Plants	Annual Agricultural Statistical Survey (Information Management Section, Department of Agriculture)	
			Actual	2010 data validation needed						
Indicator RNR 4: Total meat production(pork, beef, yak, poultry, mutton/goat, fish) stable or increasing slightly	Improvements to management of Annual Livestock Statistics Census needed	1750 MT	Target	1760 MT	1765 MT	1770 MT	1785 MT	GNH Theme 1.2 Income Generation RNR Programmed Action MOA/16 Livestock Production (meat production component)	Annual Livestock Statistical Census Information Management Section, Department of Livestock	Historical trends tend to spike and trough. Aims to stabilize/increase total meat production with emphasis on pork, poultry and fish where there are less social taboos on killing animals.
			Actual	1534.5 MT						
Indicator RNR 5: Number of rural households adopting organic renewable resource technologies increasing	Integrated database for certified and non-certified organic RNR produce sold by FHH needed as a priority	450	Target	900	1000	2000	3200	GNH Theme 1.2 Income Generation RNR Programmed Action MOA/07 Organic/Natural Agriculture	Organic Renewable Resources Database National Organic Programme, Department of Agriculture	
			Actual	Data not provided yet						

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Summary Performance Assessment Framework (PAF) Reporting Sheet for Performance Year 2010 (a pilot example)										
Indicator	Definition (actions required, calculations necessary)	Baseline Value 2008	Target/ Actual	2010	2011	2012	2013	Relationships to GNH 10 th FYP & RNR 10 th %FYP	Data Source(s) (Responsible Institutions or Departments)	Assessment (reasons for variance)
Indicator RNR 6: Land under vegetative cover to be maintained at a minimum of 60%	This indicator is measured every 5 years. The latest report was published in 2010, based on satellite imagery for 2006-2008. Action required: new survey report in 2013	70.46%	Target	70%	70%	70%	70%	GNH Theme 2.1 Environmental Conservation <u>RNR Programmed Action MOA/18-23</u> Participatory forestry, non-wood forest resource development, forest resources development, watershed management & plantation, forest protection, nature conservation	Forest Cover and Forestry Resources Inventory Survey 2012-2013 Forest Resources Development Division Department of Forestry	Due to a combination of international boundary changes and improved satellite image classification techniques, the forest cover has increased from 64% to 70.46%. The DOF might consider revising the target % forest cover to a higher level as a result of the new survey findings.
			Actual	No data collected this year						
Indicator RNR 7: Total 'One-Stop Farmers' Shops' fully functioning and increasing	Monitoring tracking sheet needed to define what fully functioning means for an OSFS. See Indicator Technical Fiche for details	0	Target	3	10	25	50	GNH Theme 4.1 Service Delivery <u>RNR Programmed Action MOA/27</u> Agriculture Marketing	One-Stop Farmers' Shops Database Cooperatives Development Division Department of Agriculture Marketing and Cooperatives	
			Actual	3						
Indicator RNR 8: Proportion of rural population living more than 1 hour walk from the road head decreasing	Improvements to management of Annual Agriculture Statistical Surveys needed	47%	Target	39%	35%	31%	20%	GNH Theme 4.3 Common Services <u>RNR Programmed Action MOA/10</u> Rural Access	Annual Agricultural Statistical Survey Information Management Section, Department of Agriculture	Changes to questionnaire method expected for 2011 to improve reliability of this indicator.
			Actual	43%						
Indicator RNR 9: RNR sector policies, acts and/or strategies revised formulated and implemented	All 6 selected enabling instruments are in various stages of process of completion. None have reached implementation stage.	At least 3 enabling instruments implemented	Target	0	1-3	1-3	3 implemented	GNH Theme 4.2 Enabling Policy & Legal Environment <u>RNR Programmed Action</u> Policy and Planning Development	Policy Review Policy and Planning Division, Ministry of Agriculture and Forestry	Strategy for implementing the various enabling instruments still to be defined for each of the 6 selected instruments.
			Actual	2 Strategy Papers	1 Forest Policy					

Annex 6: Nine Individual Indicator Technical Fiches for PAF

PAF Indicator Sheet Template (instructions)

INDICATOR CODE : A unique RNR code for ease of tracking the indicator from a basket of indicators under PAF

SIMPLIFIED NAME OF INDICATOR: A 2-4 word description of the result area that the indicator contributes to measuring

TYPE OF INDICATOR: PAF indicators should preferably be Outcome or Output indicators as defined in *EuropeAid (2011) Policy Steering: the Role and Use of Performance Measurement Indicators, Aid Delivery Methods Guide, European Commission, Brussels, Belgium*. In certain cases where there are new activities being supported under a sector budget support programme then Input indicators may be acceptable.

INDICATOR DESCRIPTION: The description of the indicator must be SMART as defined in *EuropeAid (2011)*. It must therefore be specific, measurable, accurate, reliable, and time-bound.

SMART Element	Definition
Specific	Clearly articulated and attributable to objectives, outcomes, results/outputs relative to the Bhutanese 10th FYP or its amendments after the 2010 Mid Term Review. For example, how well are the target group, the project geographical area, the technical intervention and the target quantities defined in the indicator?
Measurable	How easy it is to measure the proposed indicator in a given area over a specific time period (difficult to measure indicators may use proxy indicators or may be avoided)?
Accurate	To what level of accuracy the indicator can and should be measured? Is the sampling method sufficiently accurate for purpose of measuring the indicator? Also can it be measured with the same accuracy when made by different people using the same method?
Realistic	How viable/feasible it is to measure the indicator in terms of available resources within the Ministry of Agriculture and Forestry (staff, finances, time, and equipment)?
Time-bound	By when and how frequently the indicator of change has to be monitored? In particular it should synchronise with the decisions on budget release by the EU at the beginning of each Financial Year e.g. July/August/September and be available at the Joint Annual Review for the RNRSP in September of each year.

RATIONALE FOR INDICATOR: The rationale for using this indicator amongst the many others that may be available or that could be collected is to be described here. It should correlate well with the degree of achievement of its associated planning intervention. It should provide information that will be relevant to policy makers and resource managers.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS: A reference value or baseline figure is to be defined against which progress with the indicator during the planning period will be measured. This figure is usually based on an annual reported figure one year prior to the start of the planning period e.g. 2007 for the 10th FYP. In some cases where the data under question can vary from year to year due to natural hazard/environmental factors a 5 or 10 year average can be used; this is often the case with RNR data where variability of data between years is likely. Indicators related to animal health such as vaccination rates can be more predictable since they are more under the control of human managers and trends are easier to project and achieve.

Year	Historical trends indicator: measured in xxx											Projections for indicator (targets) under PAF		
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 T-1	2011 T	2012 T+1	2013 T+2
10th FYP targets														
Actual achieved														

In the above table as many reliable figures that are available from historical data are to be entered here. Preference should be given to published data that have been validated by statisticians/programmers familiar with RNR data sources. Projected targets are to be entered by a focal RNR technical person who is familiar with past trends, knows the resource area well, and can give realistic projected targets; this will avoid unnecessary changes in targets during MTR or annual reviews. In the row for 'Actual achieved', colour boxes can be used to show the source of data used when measuring the indicator. A * is used in the box on the 10th FP target line to show which is the reference value or baseline used.

	Data source 1 entered here		Sample size entered here
	Data source 2 entered here		Sample size entered here

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ANALYSIS OF INDICATOR BEHAVIOUR: *This section attempts to look at historical trends that have occurred, preferably over a period of 5 or 10 years. The trends whether positive or negative or with major deviations between years need to be explained in terms of the reasons behind the trends e.g. deviations due to natural hazards, accelerated positive trends due to extra resource inputs, declining trends due to poor adoption rates by farmers etc. This analysis should be carried out by the focal point person responsible for the RNR indicator; statisticians/programmers may not have the necessary technical skills to analyse the trend behaviour but they will be able to assess the quality of the data from enumeration, raw data, and processing points of view.*

OTHER RELATED INDICATORS: *Using the simplified name of the indicator as a basis there will be other related or linked indicators that may add 'information value' to the key indicator being tracked in this sheet. These related indicators may be more reliable and accurate and can act as proxies for the main indicator, if the main indicator source data is suspected to be unreliable for whatever reason.*

INSTITUTION RESPONSIBLE FOR INDICATOR: *This is the Department with the Ministry of Agriculture and Forestry responsible for the programme under which the indicator is being tracked/ measured.*

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT: *This is the person responsible for the programme under which the main indicator is measuring the programmes results. The person is termed the 'RNR Indicator Focal Point'. The focal point will be responsible for ensuring that the Indicator Fiche for which he is responsible is up-dated regularly and reported to the Chief Policy and Planning at MOAF in June/July/August of each year up to the end of the current RNRSP which is June 2014.*

METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection	<i>(What are the data to be collected and their level of aggregation?)</i>
Data sources	<i>(What is the collection instrument?)</i>
Data collection (who is responsible for collecting)	<i>(Who is responsible for collecting; how and when is it collected?)</i>
Data processing	<i>(Who carries out data entry and data processing and how; what statistical formulae are used if any?)</i>
Data presentation (how)	<i>(How are data presented; in form of published statistics, internal Department database outputs etc.?)</i>
Data reporting (by whom to whom)	<i>(By whom to whom; and how if there is need for synchronisation between reporting periods and budget years?)</i>
Inputs required for data management	<i>(When and by whom and how much?)</i>
Cost of verification	<i>(Provide data on actual costs of verification if new resources are required; if costs are internalised within Department costs then just say so)</i>
Data quality and projection risk assessment	<i>(Who provides the Quality Assessment (QA) for the data and how is this done. Estimate the potential risk(s) in achieving the projected targets and the reasons)</i>

ANY SUPPLEMENTARY INFORMATION:

Any additional supplementary material can be added the Indicator Fiche in the form of maps, other indicator statistics, photos, case study reports related to the Simplified Indicator Name provided that it supports the trends in the indicator and its quality assessment.

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INDICATOR CODE : RNR 1
SIMPLIFIED NAME OF INDICATOR: Rice Production
TYPE OF INDICATOR: Output
INDICATOR DESCRIPTION:

Metric tonnes of paddy rice (un-milled) produced in Bhutan per annum increasing slightly up to 2013

RATIONALE FOR INDICATOR:

Rice is a staple grain crop in Bhutan and since about half of the rice used in Bhutan is imported, mainly from India, the RGOB policy is to increase the production of rice within Bhutan and to reduce the dependence on imported sources of rice, which may with time become unreliable. Reduction of reliance on imported rice will strengthen overall food security in Bhutan. Due to the importance of rice to the Bhutanese diet, this indicator contributes directly to the GNH Policy Theme 1.1: Food Security.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for paddy rice production indicator: measured in thousands of metric tonnes ('000s MT)										Data due	Projections for indicator (targets) under PAF		
	2000	2001	2002	2003	2004	2005	2006	2007*	2008	2009		2010	2011 T	2012 T+1
10 th FYP targets									75.00	75.58	76.15	76.73	77.30	78.00
Actual achieved	68.31				54.32	67.98	72.51	74.43	77.34	66.36	71.64			

*Reference value (baseline) is the average annual MT paddy rice produced in Bhutan in calendar year 2007 (the year prior to the start of the 10th FYP). This reference value acts as the baseline for monitoring progress with future targets for this indicator; it has been set in the 10th FYP.

	RNR Census (10 year)	100% sample
	DOA Annual Agricultural Statistics Survey	10-30% sample survey

ANALYSIS OF INDICATOR BEHAVIOUR:

Rice production has steadily increased in the past 5-7 years and has increased by almost 50% between 2004 and 2008. Scaling up rice production has been a challenge to the DOA extension services; however, a combination of increased yields (from improved varieties, plant protection services and organic/chemical fertilizer use, external technical support) and expansion of irrigated areas (by conversion of dry land farming areas to irrigated land and double cropping in some areas) has contributed to the increasing trend.

The reference value (baseline) was chosen as 2007, the year prior to the start of the 10th FYP, and was at that time the highest production so far in the records. A 10 year or 5 year average could also have been chosen which would have been a more conservative figure. The reference value was adopted after the MTR of the 10th FYP and is higher than that in the RNRSP Financing Agreement of April 2011. The drop in production in 2009 was due to flood damage at certain irrigation schemes. Fluctuation in production between years can be expected due to natural hazards such as drought/irrigation water shortages, flood or pest and diseases.

OTHER RELATED INDICATORS:

Paddy rice crop yields in Bhutan increase from 1,102 kg/acre in 2007 to 1,500 kg/acre in 2013

INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forests, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

Ganesh Chettri, Agriculture Specialist, Department of Agriculture, Ministry of Agriculture and Forestry
Phone number: +975 2 321291 (Office)
E-mail address: gchettri@moa.gov.bt

METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed for this indicator are metric tonnes of paddy rice produced by individual farmers within Bhutan in each year aggregated at the national level. The data are aggregated from Gewog-level data.
Data sources (what is the collection instrument)	A 10-30% sample of farming households is carried out every year in all 205 Gewog using a <i>farming household questionnaire</i> carried out by the <u>Information Management Section (IMS)</u> of the Department of Agriculture. Sample size varies depending on the household numbers in each Gewog. This data source will be the most suitable for monitoring the RNRSP PAF. <u>Policy and Planning Division (PPD)</u> in MOAF uses a standard questionnaire to carry out a Census every 10 years; this data source will not be available for monitoring the PAF between 2011 and 2013.
Data collection (who is responsible for collecting)	For the 10-30% annual sample survey, primary data are collected by the Agriculture extension agents. The annual survey captures data for a calendar year (January-December). The enumeration period is generally between December and February which is also the agricultural slack period when farmers are more available to answer questions.
Data processing (who carries out data entry and data processing and how)	In the recent past (2009), Agriculture Extension Officers from all the Districts met in one location in March and carried out data entry supervised by IMS staff. In the past data entry has been done using CSPro database; SPSS has also been used for tabulation and analysis. The National Statistics Bureau has been used to assist with analysis and tabulation and to provide quality control over data when needed.
Data presentation (how)	Preliminary data in the form of spreadsheets are normally available in April/May. Final publications can appear as late as July or August. Meta-data on rice production is available at the PPD. Annual totals of metric tonnes of rice produced within Bhutan are presented in the form of a historical timeline that is posted on the Country STAT-Bhutan website using Census and the annual sample survey data. Data are currently available for the period 2000 to 2009 with three missing years due to poor quality enumeration giving a total of 7 years' records. Data for 2010 are pending.
Data reporting (by whom to whom)	<p>As soon as preliminary data are available for rice production, the IMS at DOA will be able to send the data in spreadsheet format to the Statistician/Programmer at PPD for further quality assessment and filtering out of any bad data entries. The data should be available in April/May for entry into the PAF <i>Indicator Technical Fiche</i>. Care should be taken that the data harmonise with those to be presented in the Agricultural Statistics report for that year.</p> <p>An annual up-dated <i>Indicator Technical Fiche RNR1</i> is to be compiled by the <u>Planning Officer (Agriculture Focal Point)</u> at PPD who is responsible for this PAF indicator and submitted in May/June to the <u>Chief, Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu in June in each year. This should be in time for incorporation into the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i>.</p> <p>This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the <i>RNRSP Financing Agreement</i> and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release. Since the agricultural calendar for rice production is in the second half of the calendar year, the production data for a particular year relate to the reporting period under the PAF i.e. the reporting year synchronises with the RNRSP budget release year, at least for rice production.</p>
Inputs required for data management (when and by whom)	Since the data is already being collected by the Department of Agriculture as part of their regular programme, no major extra inputs are required for data management of this indicator. However, a centralised training of 7-10 days should be carried out for RNR Gewog staff and Dzongkhag staff in data enumeration and supervision. Field allowances should be provided to all RNR staff specifically for data collection under the annual agriculture surveys; payment of allowances should be performance based following an evaluation of the quality of completed questionnaires.
Cost of verification	No extra costs are envisaged. This is cost efficient when compared to the cost of the 2008 Census which was 17.66 million Ngultrums; mainly due to field allowance costs, transport for supervision, and collection of completed questionnaires.
Data quality and projection risk assessment (who and how)	Potential problems with data quality are described in the <i>Agriculture Statistics 2009 Report</i> . Many of the problems are due to the low literacy rate amongst farmers and their poor understanding of some concepts when enumeration takes place. To some extent these can be compensated for by the larger size of sample in most Gewogs (in some cases the sample size has exceeded 50% for individual Gewogs). Further statistical training is needed amongst staff throughout the DOA (and other departments for other indicators), especially in the IMS. The recent death of the Head of the IMS and the lack of other statistically qualified staff there pose

Stage in Data Management	Description
	<p>problems within the DOA for statistical data management. Many errors in data presentation could be avoided by care in checking statistical tables, especially for misplaced decimal places, column headings errors, wrong number entry etc. To try to improve data quality, processing and analysis of 2010 survey data was carried out by the Statistician/Programmer at PPD.</p> <p>The risk of the indicator not meeting projected targets is dependent on the vagaries of the natural environment. Drought, floods, irrigation water shortages, pests and diseases can all damage crops of rice. The dip in the production figures in 2009 are most likely due to the flooding that took place during that year in some schemes, and damage to rice crop land.</p>

ANY SUPPLEMENTARY INFORMATION:

Attach copies of Annual Agricultural Statistics reports to the file for Indicator RNR 1 for all relevant years.

**Bhutan Renewable Natural Resources Sector Programme
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INDICATOR CODE : RNR 2

SIMPLIFIED NAME OF INDICATOR: Milk Production

TYPE OF INDICATOR: Output

INDICATOR DESCRIPTION:

Metric tonnes of milk (cattle, yak, and buffalo) produced per annum by farming households in Bhutan are increasing

RATIONALE FOR INDICATOR:

There is a strong emphasis on milk production and processing at the household level in Bhutan, and butter and local cheese are also major components of Bhutanese diet. Around 10.5% of farming households sell milk; 18.5% sell butter and 16.2% sell cheese (Livestock Census, 2010). In many areas, the primary purpose of keeping livestock (cattle, yak, and buffalo) is to supply draught power and manure for crop production as the Bhutanese rural economy is still primarily a subsistence economy with a mixed farming system comprising agriculture crops and livestock. Cattle and yak are also used to transport goods. Livestock keeping in Bhutan also provide a sense of security to rural farmers in times of crop failure since they can be exchanged readily for cash or food grains. The demand for dairy products, mainly in urban areas, is very high and it is largely supplemented by Indian imports. Due to the importance of milk and milk products to the Bhutanese diet, this indicator contributes directly to the GNH Theme 1.1: Food Security, as well as contributing to Theme 1.2: Income Generation.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for milk production indicator: measured in thousands of metric tonnes ('000s MT)										Data due	Projections for indicator (targets) under PAF			
	2000	2001	2002	2003	2004	2005	2006	2007	2008*	2009		2010	2011 T	2012 T+1	2013 T+2
	10th FYP targets											23.33	23.72	24.36	24.77
Actual achieved					19.93	21.24	19.80	22.88	25.69	25.65					
'Control' data	24.84							25.84							

*Reference value (baseline) is the average annual MT milk (from cattle, yak and buffalo) produced in Bhutan in calendar year 2008. This reference value acts as the baseline for monitoring progress with future targets for this indicator.

RNR Census (10 year)	100% sample
DOL Annual Livestock Census	100% Census

ANALYSIS OF INDICATOR BEHAVIOUR:

There has been an increase by 19.63% in the total of metric tonnes of milk produced over the last five years. Increased production is due to introduction of improved breeds of livestock, improved fodder and nutrition, and pasture development. In 2009 and 2010 all-time peaks of 25.69 and 25.65 thousand MT were reached. It is expected that milk production will continue to increase compared to the 2008 reference value (baseline). Imported fresh milk and powdered milk products account for 5-10% of all milk used in Bhutan.

A RNR Census was carried out in 2008 (reported in 2009) and the milk production figure was higher than the DOL Census by 13.11%. It can therefore be expected that there may be a sampling error in the range of 10-15% when using the Annual Livestock Census data. An error range of 5-10% is quite often found when surveying agricultural/livestock resources.

OTHER RELATED INDICATORS:

Percentage of farming households producing milk for sale in Bhutan is increasing
Percentage of farming households processing milk for butter or cheese in Bhutan is increasing
Total commercial sales of milk in millions Ngultrum from milk produced by farming households in Bhutan is increasing

INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forests, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

Dr TashiDorji, Chief Livestock Production Officer, Dairy Development Division, Department of Livestock, Ministry of Agriculture and Forestry, Thimphu, Bhutan
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METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed for this indicator are metric tonnes of milk (from cattle, yak and buffalo) produced by individual farmers within Bhutan in each year aggregated at the national level. The data are aggregated from FHH data at Gewog, Dzongkhag, and National levels and for the three types of livestock producing milk.
Data sources (what is the collection instrument)	A 100% sample of farming households is carried out every year in all 205 Gewog using a <i>farming household questionnaire</i> carried out by the <u>Information Management Section (IMS)</u> of the Department of Livestock. This data source will be the most suitable for monitoring the RNRSP PAF. <u>Policy and Planning Division (PPD)</u> in MOAF uses a standard questionnaire to carry out a Census every 10 years; this data source will not be available for monitoring the PAF between 2011 and 2013.
Data collection (who is responsible for collecting)	For the 100% annual Census, primary data are collected by the Livestock extension agents. The annual Census captures data for a calendar year (January-December). The enumeration period is generally between December and February which is also the agricultural slack period when farmers are more available to answer questions.
Data processing (who carries out data entry and data processing and how) Data presentation (how)	Data entry is made into MS Access for processing and tabulation by staff at the IMS in the DOL. Quality control is provided by the IMS at the PPD. Annual totals of metric tonnes of milk produced within Bhutan are presented in the <i>Annual Livestock Statistics Report</i> and in the form of a historical timeline that is posted on the <i>Country STAT-Bhutan</i> website by PPD using results from both the 10 year Census and the annual 100% Census data. Data from DOL are available for the period 2005 to 2010 giving a total of 6 years' records. The DOL carries out an annual Census rather than a survey due to the fact that it needs to keep records on vaccination for the total livestock population.
Data reporting (by whom to whom)	An annual up-dated <i>Indicator Technical Fiche RNR 2</i> is to be compiled by the <u>Chief Livestock Production Officer</u> responsible for this PAF indicator and submitted annually to the <u>Chief of Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu in August/September in each year in time for incorporation into the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i> . This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the <i>RNRSP Financing Agreement</i> and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release.
Inputs required for data management (when and by whom)	Since the data are already being collected by the Department of Livestock as part of their regular programme, no major extra inputs are required for data management of this indicator. However, a centralised training of 7-10 days should be carried out for RNR Gewog staff and Dzongkhag staff in data enumeration and supervision. Field allowances should be provided to all RNR staff specifically for data collection under the annual livestock census; payment of allowances should be performance based following an evaluation of the quality of completed questionnaires.
Cost of verification	No extra costs are envisaged apart from the centralised training of field staff. This is cost efficient when compared to the cost of the 2008 Census which was 17.66 million Ngultrums; mainly due to field allowance costs and transport for supervisory staff.
Data quality and projection risk assessment (who and how)	Potential problems with data quality are described in the <i>Livestock Statistics 2009 Report</i> . Many of the problems are due to the low literacy rate amongst farmers and their poor understanding of some concepts when enumeration takes place. Farmers do not keep their own records. Under-reporting of livestock populations and production figures for taxation reasons is another source of error. To some extent these can be compensated for by the larger size of sample in most Gewogs (in some cases the sample size has exceeded 50% for individual Gewogs). Further statistical training is needed amongst staff throughout the DOL, especially in the IMS. Many errors in data presentation could be avoided by care in checking statistical tables, especially looking for misplaced decimal places, column headings errors, wrong number entry etc. The DOL needs strengthening with regard to information and statistics management, both in terms of additional staff and their training at the Information Management Section within DOL. Risks in meeting the annual targets for milk production may occur if there are incidences of livestock disease in a particular year. Recent increasing trends have been somewhat stable due to better vaccination campaigns, improved animal health care, and improved fodder and nutrition levels.

ANY SUPPLEMENTARY INFORMATION:

Attach copies of Annual Livestock Statistics reports to the file for Indicator RNR 2 for all relevant years.

**Bhutan Renewable Natural Resources Sector Programme
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INDICATOR CODE : RNR 3
SIMPLIFIED NAME OF INDICATOR: Horticulture cash crop adoption
TYPE OF INDICATOR: Outcome

INDICATOR DESCRIPTION:

Percentage of farming households earning more than 50,000 Ngultrum per annum from sale of horticultural crops (fruits, nuts, vegetables) is increasing

RATIONALE FOR INDICATOR:

Commercial horticulture production has been one of the success stories in Bhutan over the past 25 years, particularly for mandarin orange, apple and potato which are exported to Bangladesh and India. An Outcome indicator has been developed using the raw data from the RNR Census and the Annual Agricultural Survey to provide information on the number of farmers that earn income from all horticulture crops (fruit, nut and vegetables) in 6 income ranges. The median income range boundary of Nu.50, 000 is used to identify farmers that are gaining significant income well above the average rural household annual expenditure level which is Nu.10, 829 (NSB, 2007). The previous indicator mentioned in the Financing Agreement is not easily measurable according to the Focal Point for this indicator at the Horticulture Division. This indicator has significant potential to add to farmers' incomes and directly supports the GNH Theme 1.2: Income Generation.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for horticulture cash crop adoption indicator: measured in percentage of farmers											Projections for indicator (targets) under PAF		
	2000	2001	2002	2003	2004	2005	2006	2007	2008*	2009	2010	2011 T	2012 T+1	2013 T+2
10th FYP targets										33.5	34.5	35.5	36.5	37.5
Actual achieved														
'Control' data									32.5					

*Reference value (baseline) is the percentage of farmers selling horticulture crops (fruits, nuts, vegetables) to a value of >50,000 Ngultrum for calendar year 2008. This reference value acts as the baseline for monitoring progress with future targets for this indicator.

	RNR Census (10 year)	100% sample
	DOA Annual Agricultural Statistics Survey	10-30% sample survey

ANALYSIS OF INDICATOR BEHAVIOUR:

Since this is a new indicator that was developed during the input of the EU start-up mission in September 2011; trends have still to be reviewed after the IMS at the DOA have extracted the required statistical tables from the raw data for years 2005, 2006, 2007, 2009 and 2010. QA for this data is to be made by the Statistician/Programmer at PPD.

OTHER RELATED INDICATORS:

Value of horticulture export increased from Nu.476 million per year to Nu.900 million per year
Total horticulture production in metric tonnes per annum
Diversity of horticulture crops and crop varieties grown increasing
Proportion of farmers engaged in horticulture export cropping increased from 10% to 25% (dropped as the key indicator by the Chief of Horticulture Division during the EU Expert mission in September 2011 owing to measurability issues)

INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forests, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

Ms.KinlayTshering, Chief Horticulture Officer, Horticulture Division, Department of Agriculture, Ministry of Agriculture and Forestry, Thimphu, Bhutan
Phone: 00 975 17757240
E-mail: kinlaytshering@moa.gov.bt

METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed for this indicator are the estimated annual incomes from the sale of all horticultural crops for farming households within Bhutan, aggregated at the national level. Horticultural products include all fruits, nuts and vegetables. The indicator excludes other RNR products such as cereals, livestock and forestry products.
Data sources (what is the collection instrument)	A 10-30% sample of farming households is carried out every year in all 205 Gewog using a <i>farming household questionnaire</i> carried out by the <u>Information Management Section (IMS)</u> of the Department of Agriculture. Sample size varies depending on the population size of each Gewog. This data source will be the most suitable for monitoring the RNRSP PAF. <u>Policy and Planning Division (PPD)</u> in MOAF uses a standard questionnaire to carry out a Census every 10 years; this data source will not be available for monitoring the PAF between 2011 and 2013.
Data collection (who is responsible for collecting)	For the 10-30% annual sample survey, primary data are collected by the Agriculture extension agents. The annual survey captures data for a calendar year (January-December). The enumeration period is generally between December and February which is also the agricultural slack period when farmers are more available to answer questions. Improvements to data collection are needed with refresher training of RNR staff at Gewog, Dzongkhag and central IMS staff.
Data processing (who carries out data entry and data processing and how)	In the recent past (2009), Agriculture Extension Officers from all the Districts met in one location in March and carried out data entry supervised by IMS staff. In the past data entry has been done using CPro database; SPSS has also been use for tabulation and analysis. The National Statistics Bureau has been used to assist with analysis and tabulation and to provide quality control over data when needed.
Data presentation (how)	Preliminary data in the form of spreadsheets are normally available in April/May. Final publication of the <i>Agricultural Statistics Yearbook</i> can appear as late as July or August. Annual totals of metric tonnes of fruits, nuts, and vegetables produced and sold for the domestic and international markets within Bhutan are presented in the form of a historical timeline that is posted on the <i>Country STAT-Bhutan</i> website by PPD using results from the 10 year Census and the annual 10% sample data. Data are available for the period 2000 to 2009 with 3 missing years when data quality was unreliable giving a total of 7 years' records.
Data reporting (by whom to whom)	<p>As soon as preliminary data are available for all horticultural crop production, the IMS at DOA will be able to send the data in spreadsheet format to the Statistician/Programmer at PPD for further quality assessment and filtering out of any bad data entries. The data should be available in April/May for entry into the <i>PAF Indicator Technical Fiche</i>. Care should be taken that the data harmonise with those to be presented in the Agricultural Statistics report for that year.</p> <p>An annual up-dated <i>Indicator Technical Fiche RNR 3</i> is to be compiled by the <u>Planning Officer (Agriculture Focal Point)</u> at PPD who is responsible for this PAF indicator and submitted in May/June to the <u>Chief, Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu in June in each year. This should be in time for incorporation into the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i>.</p> <p>This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the <i>RNRSP Financing Agreement</i> and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release. Since the agricultural calendar for horticulture crop production is very variable with some crops harvested in the second half of the year and others harvested in the first half and this varies also with altitude for the same crop, reporting on production and income data, which is based on a calendar year will not match with reporting on budget years which are July-June. Account has to be taken of this under PF reporting</p>
Inputs required for data management (when and by whom)	Since the data is already being collected by the Department of Agriculture as part of their regular programme, no major extra inputs are required for data management of this indicator. However, a centralised training of 7-10 days should be carried out for RNR Gewog staff and Dzongkhag staff in data enumeration and supervision. Field allowances should be provided to all RNR staff specifically for data collection under the annual agriculture surveys; payment of allowances should be performance based following an evaluation of the quality of completed questionnaires.
Cost of verification	No extra costs are envisaged apart from centralised training for field staff. This is cost efficient when compared to the cost of the 2008 Census which was 17.66 million Ngultrums; mainly due to field allowance costs and transport for supervisory staff.

Stage in Data Management	Description
Data quality and projection risk assessment (who and how)	<p>Potential problems with data quality are described in the <i>Agriculture Statistics 2009 Report</i>. Many of the problems are due to the low literacy rate amongst farmers and their poor understanding of some concepts when enumeration takes place. To some extent these can be compensated for by the larger size of sample in most Gewogs (in some cases the sample size has exceeded 50% for individual Gewogs). Further statistical training is needed amongst staff throughout the DOA (and other departments for other indicators), especially in the IMS. The recent death of the Head of the IMS and the lack of other statistically qualified staff pose problems within the DOA for statistical data management. Many errors in data presentation could be avoided by care in checking statistical tables, especially for misplaced decimal places, column headings errors, wrong number entry etc.</p> <p>The risk of the indicator not meeting projected targets is dependent on the vagaries of the natural environment. Drought, floods, irrigation water shortages, pests and diseases can all damage horticultural crops.</p>

ANY SUPPLEMENTARY INFORMATION:

Attach copies of Annual Agricultural Statistics reports to the file for Indicator RNR 3 for all relevant years.

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INDICATOR CODE : RNR 4
SIMPLIFIED NAME OF INDICATOR: Meat Production
TYPE OF INDICATOR: Output

INDICATOR DESCRIPTION:

Metric tonnes of meat (beef, mutton, pork, yak, poultry, and fish) produced per annum for sale by farming households in Bhutan are increasing

RATIONALE FOR INDICATOR:

Keeping of livestock for the purpose of meat production is very limited in Bhutan due to strong religious sentiments with only 2.5 % of farming households selling beef or pork in 2008 (RNR Census Report, 2009). With recent changes in food habits, the consumption of meat is increasing among the urban population. To meet the growing needs of the country, a substantial amount of meat is imported and animals that die as a result of accidents are also sold. The ratio of domestic production of meat to imported meat is currently 0.14 (from analysis of trade and Census statistics for 2010), consequently, there is a huge potential for substituting imported meat with home-grown meat. The indicator is an aggregate of data for beef, pork, poultry, yak, mutton/goat, and fish (the indicator can be disaggregated if necessary from available livestock statistics at DOL). Support for establishment of small meat market centres in each Gewog would assist with generating small meat surpluses at the local level and help improve local nutrition levels. This indicator has significant potential to add to farmers' incomes and directly supports the GNH Theme 1.2: Income Generation.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for meat production indicator: measured in metric tonnes (MT)											Projections for indicator (targets) under PAF		
	2000	2001	2002	2003	2004	2005	2006	2007	2008*	2009	2010	2011 T	2012 T+1	2013 T+2
10th FYP targets										1755	1760	1765	1770	1785
Actual achieved							606.85	708.83	1750.4	1364.63	1534.4			
'Control' data	1653								851					

*Reference value (baseline) is the average annual MT meat (from beef, pork, mutton, goat, chicken, yak and fish) produced in Bhutan in calendar year 2008. This reference value acts as the baseline for monitoring progress with future targets for this indicator.

	RNR Census (10 year)	100% sample
	DOL Annual Census	100% Census

ANALYSIS OF INDICATOR BEHAVIOUR:

The livestock statistics (2006-2010) show that the population of local cattle, yak, pig, and sheep have declined, whereas, improved cattle, poultry and goats have increased. The metric tonnes of animal meat have increased for all types of animal with major increases in fish and yak meat production. In overall terms meat production is increasing gradually from a low in 2006. Unfortunately the baseline year of 2008 had the highest meat production for the period 2006-2010. Trends for 2011-2013 will need to be monitored carefully if end targets are to be achieved. Due the sensitivity to killing animals in Bhutanese society, it would be useful to monitor disaggregated data since for fish, poultry and pork there is less of a taboo and the increases in production for these types of meat are expected to be higher in percentage terms and more stable in the long term.

OTHER RELATED INDICATORS:

Proportion of farming households selling animal meat in Bhutan increasing
Total farm sales of animal meat products

INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forestry, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

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METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed for this indicator are metric tonnes of meat (from pork, beef, yak/buffalo, poultry, mutton/goat and fish) produced by individual farmers within Bhutan in each year aggregated at the national level. The data are aggregated from FHH data at Gewog, Dzongkhag, and National levels and for the eight types of livestock producing meat.
Data sources (what is the collection instrument)	A 100% sample of farming households is carried out every year in all 205 Gewog using a <i>farming household questionnaire</i> carried out by the <u>Information Management Section (IMS)</u> of the Department of Livestock. This data source will be the most suitable for monitoring the RNRSP PAF. <u>Policy and Planning Division (PPD)</u> in MOAF uses a standard questionnaire to carry out a Census every 10 years; this data source will not be available for monitoring the PAF between 2011 and 2013.
Data collection (who is responsible for collecting)	For the 100% annual Census, primary data are collected by the Livestock extension agents. The annual Census captures data for a calendar year (January-December). The enumeration period is generally between December and February which is also the agricultural slack period when farmers are more available to answer questions.
Data processing (who carries out data entry and data processing and how) Data presentation (how)	Data entry is made into MS Access for processing and tabulation by staff at the IMS in the DOL. Quality control is provided by the IMS at the PPD. Annual totals of metric tonnes of meat produced within Bhutan are presented in the <i>Annual Livestock Statistics Report</i> and in the form of a historical timeline that is posted on the <i>Country STAT-Bhutan</i> website by PPD using results from both the 10 year Census and the annual 100% Census data. Data from DOL are available for the period 2006 to 2010 giving a total of 5 years' records. The DOL carries out an annual Census rather than a survey due to the fact that it needs to keep records on vaccination for the total livestock population.
Data reporting (by whom to whom)	An annual up-dated <i>Indicator Technical Fiche RNR 4</i> is to be compiled by the <u>Chief Livestock Production Officer</u> responsible for this PAF indicator and submitted annually to the <u>Chief, Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu in August/September in each year in time for incorporation into the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i> . This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the <i>RNRSP Financing Agreement</i> and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release.
Inputs required for data management (when and by whom)	Since the data is already being collected by the Department of Livestock as part of their regular programme, no extra inputs are required for data management of this indicator. However, a centralised training of 7-10 days should be carried out for RNR Gewog staff and Dzongkhag staff in data enumeration and supervision. Field allowances should be provided to all RNR staff specifically for data collection under the annual livestock census; payment of allowances should be performance based following an evaluation of the quality of completed questionnaires.
Cost of verification	No extra costs are envisaged except for the centralised training. This is cost efficient when compared to the cost of the 2008 Census which was 17.66 million Ngultrums; mainly due to field allowance costs and transport for supervisory staff.
Data quality and projection risk assessment (who and how)	Potential problems with data quality are described in the <i>Livestock Statistics 2009 Report</i> . Many of the problems are due to the low literacy rate amongst farmers and their poor understanding of some concepts when enumeration takes place. Farmers do not keep their own records. Under-reporting of livestock populations and production figures for taxation reasons is another source of error. To some extent these can be compensated for by the larger size of sample in most Gewogs (in some cases the sample size has exceeded 50% for individual Gewogs). Further statistical training is needed amongst staff throughout the DOA, especially in the IMS. Many errors in data presentation could be avoided by care in checking statistical tables, especially looking for misplaced decimal places, column headings errors, wrong number entry etc. The DOL needs strengthening with regard to information and statistics management, both in terms of additional staff and their training at the Information Management Section within DOL. Risks in meeting the annual targets for meat production may occur if there are incidences of livestock disease in a particular year. Recent increasing trends for fish, poultry and pork have been possible due to efforts by the DOL to promote these meats in particular.

ANY SUPPLEMENTARY INFORMATION:

Attach copies of Annual Livestock Statistics reports to the file for Indicator RNR 4 for all relevant years. Provide disaggregated data in order to evaluate trends for each type of livestock to monitor the changing eating and selling habits of the Bhutanese population in rural areas.

**Bhutan Renewable Natural Resources Sector Programme
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INDICATOR CODE : RNR 5

SIMPLIFIED NAME OF INDICATOR: Organic renewable resource technology adoption

TYPE OF INDICATOR: Outcome

INDICATOR DESCRIPTION:

Number of rural households adopting organic renewable resource technologies and selling organic produce (either registered or non-registered) in Bhutan is increasing by 2013

RATIONALE FOR INDICATOR:

The production and sale of organic renewable resources includes products from agriculture, livestock and forestry and may involve on-farm and off-farm resources e.g. vegetables from kitchen gardens, livestock products, or wild collection from community forests. To be considered organic, each of the commodities produced has to follow a strict set of compliance criteria for it to be certified as organic. Since the registration of organic producers has still to be achieved in Bhutan due to lack of a local certification system, records of organic certified products and producers come from data of Bio Bhutan which is currently the only enterprise in Bhutan dealing with certified products. Since 3rd party certification is only realistically available at the moment from India, and is very expensive, the RGOB is considering developing a certification service for 3rd party certification and a Participatory Guarantee System (PGS) for the domestic market through BAFRA. It will take some years before this is fully established. In the meantime, farmers are selling produce as 'organic' even though it is not yet certified, although they have adopted some if not all recommended organic practices.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for organic technology adoption: measured in numbers of rural households (mostly farmers) in Bhutan										Projections for indicator (targets) under PAF			
	2000	2001	2002	2003	2004	2005	2006	2007*	2008	2009	2010	2011	2012	2013
Target number								450	692	750	T-1	T	T+1	T+2
Number achieved								450	692	762		1000	2000	3200

*Reference value (baseline) is the actual number of rural households (mainly farmers) who have cooperated with NOP and or Bio Bhutan in 2007. Projections are based on the sensitisation and training plans of the National Organic Programme (NOP) and the estimates of organic farmer groups that will be formed in each year based on the 'Lead Crop Group' principle.

Source: NOP (including Bio Bhutan/BAFRA data) Integrated database for all certified and non-certified households

ANALYSIS OF INDICATOR BEHAVIOUR:

This is a new farming system to Bhutan and there are no long term records being collected, at least that are in an organised and integrated way. It is recommended that funds be provided for a consultant to develop a database to be managed by NOP which will integrate data from NOP (and Dzongkhags), BAFRA and certified organic companies such as Bio Bhutan. Data to be collected include: number of farmers sensitised, number of farmers trained, number of organic farmer groups formed, number of 'Lead Crop Groups' formed, number of groups with 3rd party certification, number of farmers with PGS certification, sales of individual organic commodities through certified agents, number of farmers selling organic produce (certified and non-certified) etc.

OTHER RELATED INDICATORS:

Area under certified organic agriculture increasing

Number of organic renewable resource groups established in Bhutan that are registered with organic agro-processing centres is increasing

Number of organic agro-processing centres established in Bhutan and successfully selling certified organic products is increasing

INSTITUTION RESPONSIBLE FOR INDICATOR:

Ministry of Agriculture and Forestry, Department of Agriculture, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

Ms. Kesang Tshomo, Programme Coordinator for National Organic Programme, Agriculture Division, Department of Agriculture, Thimphu

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METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed for this indicator are statistics on number of rural households adopting organic renewable resource technologies and selling organic produce (either registered or non-registered)
Data sources (what is the collection instrument)	Primary data are collected from databases belonging to various stakeholders. These include: NOP, BAFRA once they have the mandate for certification of organic produce, Dzongkhags for information on registered organic groups at Gewog level, certified organic produce marketing agencies such as DAMC and Bio Bhutan. These databases are not well established and a consultancy is needed to prepare a monitoring framework for organic renewable resource producers and sellers.
Data collection (who is responsible for collecting)	Primary data to enter into an integrated central database on organic renewable resources production, certification and sale could be coordinated by senior staff at NOP.
Data processing (who carries out data entry and data processing and how)	Data entry into the database could be done by staff at NOP where totals, percentages and other statistics can be derived. This would require that a new staff member be appointed who can coordinate data collection from the different sources on a quarterly basis after a monitoring system is put in place. The capacity for the IMS at DOA to do this is limited due to manpower constraints there.
Data presentation (how)	Data can be presented in the form of a spreadsheet together with charts (pie, graph, histogram, site photographs) and a written report with case studies of successful and weak organic renewable resource producers and sellers.
Data reporting (by whom to whom)	An annual up-dated <i>Indicator Technical Fiche</i> is to be compiled by a <u>Planning/Technical Officer</u> at NOP responsible for this PAF indicator and submitted annually to the <u>Chief of Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu in August/September in each year in time for incorporation into the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i> . This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the <i>RNRSP Financing Agreement</i> and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release.
Inputs required for data management (when and by whom)	Around 4-6 weeks of a NOP Officer's time per year will be required to keep an organic producers and sellers database, and to prepare a monitoring form for gathering information on a range of indicators at each organic renewable resource group.
Cost of verification	Cost of verification may be moderate since data have to be collected from all 20 Dzongkhag and from certified organic agents (e.g. Bio Bhutan) as well as BAFRA (once certification is started); it is unlikely that the data verification could be absorbed within the current budget and staff levels of NOP.
Data quality and projection risk assessment (who and how)	Since this data is mainly from administrative information readily available from various sources and from simple Organic Producer and Seller Monitoring Sheets, the quality of data should be accurate and reliable. Case studies should be carried out with cooperating organic farmer groups. The risk of not achieving the targets as set for this indicator is considered low, due to the demand amongst farmers for this programme. Problems may occur due to the competition between conventional agriculture policies and those related to value added produce and the search for markets.

ANY SUPPLEMENTARY INFORMATION:

Attach copies of NOP half yearly/annual reports to the file for Indicator RNR 5 for all relevant years during the RNRSP that is funded through the EU. Copies of Bio Bhutan Annual Reports and other organic certified agencies would be useful too.

**Bhutan Renewable Natural Resources Sector Programme
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INDICATOR CODE : RNR 6

SIMPLIFIED NAME OF INDICATOR: Forest Cover

TYPE OF INDICATOR: Outcome

INDICATOR DESCRIPTION:

Percentage of land area in Bhutan under forest (tree) cover is stabilized at 60% or is higher

RATIONALE FOR INDICATOR:

Article 5 of the Constitution of the Kingdom of Bhutan states that: “Every Bhutanese is a trustee of the Kingdom’s natural resources and environment”. The Royal Government is enjoined in the Constitution to conserve and improve the environment and safeguard the country’s biodiversity. It is further directed to secure sustainable development while promoting economic and social development. The Constitution further charges the Government to ensure that a minimum of 60 % of country’s land area should be maintained under forest cover for all time.

National Forest Policy of 2011: The total area of forest in the country is 24,718.147 sq. km. and this combined with scrub forest of 3,457.348 sq. km, constitutes 72.7 percent of the land area. Approximately 43 percent of the total land area is contained within the Protected Areas system with an additional 9 percent designated as biological corridors (the sources of these data are not quoted).

Bhutan Land Cover Assessment of 2010 (based on satellite data for the winter periods of 2006-2009): The total area of forest is 27, 050 sq.km. = 70.46%. The total shrub land area is 4, 005 sq.km. =10.43%. Combining tree cover and shrub cover gives 80.89% of the land area.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for indicator measured in % of land area under Forest (tree) cover						Projections for indicator (targets)		
	1995	2000	2005	2008*	2009	2010**	2011	2012	2013
Target % 1				>60		T-1	T	T+1	T+2
Target % 2						70	>60	>60	>60
Actual %	64.36					70.46	70	70	70

*Reference value (Target 1) is based on the policy outlined in the Bhutanese Constitution of 2008

** Reference value (Target 2) is based on a management target for maintaining current forest resources at the level that approximates forest (tree) cover defined in the National Forest Policy (2011) and the Land Cover Survey (2010) i.e. at 70.46%.

ANALYSIS OF INDICATOR BEHAVIOUR:

The LCMP (2010) assessment shows significant differences in land cover from the LUPP assessment (1995). In particular, the total forest cover has increased from 64.36% (based on 40,077km² area surveyed) to 70.46% (based on 38,394km² area surveyed) with an actual area increase of 1,265.9km². The actual cultivated agricultural land on the other hand has dropped from 7.85% (based on 40,077km²) to 2.93% (based on 38,394km²) with an actual area decrease of 2,020km² partly due to over-classification of cultivated agricultural land during LUPP-1995 and the following of *tseriland* during the LCMP (2010) assessment. The recent international boundary demarcation with China has also caused some differences in the relative land cover composition, largely due to the loss of high-altitude areas in the northern part of the country. However, part of the differences between the LUPP (1995) and LCMP (2010) land cover assessments is attributed to improvements in the assessment methodology. The next assessment of forest cover will be reported in 2013 using data from 2011-2012.

OTHER RELATED INDICATORS:

Forest inventory data when available will provide a quality assessment of forest cover categories by providing information on tree stand volumes, tree species, and crown cover based on more intensive field sampling data. This type of survey was not carried out for the LCMP or the LUPP assessments. The DOFPS is planning to carry out a forest cover survey using satellite imagery for the winter months in 2011 and 2012, and the results will be available in 2013. The validation of the results will be done through correlation with the field work results carried out by the National Forest Inventory.

INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forestry, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

KinleyTshering, Chief Forestry Officer, Forest Resources Development Division, Department of Forests and Park Services, Ministry of Agriculture & Forestry
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E-mail: kinleytshering@gmail.com

METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed for this indicator are forest (tree) cover areas in hectares combining at least fir forest, mixed conifer forest, blue pine forest, chir pine forest, broadleaf forest, broadleaf & conifer forest and any other appropriate forest classification that should be included in forest cover with the exception of shrubland or scrubland.
Data sources (what is the collection instrument)	Previously, land cover assessments have used ALOS images (AVNIR-2) from winter seasons with 10 meter resolution. Supporting this, historical data from other land cover maps, topography maps, older satellite images and Google Earth have been used. The last survey in 2010 carried out by the National Soil Services Centre and PPD used 2006-2009 winter images. It is now proposed to use 2011 and 2012 winter satellite images for a new survey to be carried out by the Forest Resource Development Division together with a forest ground inventory and the establishment of around 242 forest monitoring plots. Consideration should be given to using Quick Bird satellite imagery which has a 1 metre resolution and individual trees can be identified and tree density estimates are very accurate; however, the high cost of this imagery may only allow strategic forest areas to be sampled especially in the FMU areas.
Data collection (who is responsible for collecting)	Although mapping of forest cover will rely on satellite image interpretation, there will be a lot of groundtruth information involved in this survey especially from the forest inventory points and the permanent monitoring sites. This should provide a much more reliable forest cover assessment than has previously been possible.
Data processing (who carries out data entry and data processing and how) Data presentation (how)	Data processing will be done using satellite imagery software such as ERDAS or similar integrated GIS software. Data will be presented in the form of a forest cover report together with a set of forest cover maps and satellite images. Statistical tables will also be provided together with estimates of potential error for each category of forest cover.
Data reporting (by whom to whom)	Forest Resources Development Division will provide the forest cover data before end June 2013. The data will cover the winter periods of 2011 and 2012. An annual up-dated <i>Indicator Technical Fiche RNR 6</i> is to be compiled by the <u>Planning Officer (sub-sector forestry)</u> responsible for this PAF indicator and submitted to the <u>Chief of Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu to indicate progress with the forest cover survey and inventory. In August 2013, and in time for incorporation into the <i>Final Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i> , the results for the forest cover survey will be provided. This final report will be used to aid decision making on any final budget releases (if any) for the current RNRSP. This indicator RNR 6 will also assist in the process for deciding on any future new RNRSP budget support agreements with either EU and/or multi-donors during the Final Evaluation of the RNRSP in 2013/14.
Inputs required for data management (when and by whom)	Details of inputs required are available in the proposal currently under preparation by the Department of Forest and Park Services. Inputs include: developing the inventory methodology, preparing a manual, training of field crews, equipment, vehicles, consulting services, etc.
Cost of verification	The total cost of the land cover assessment combined with the forest inventory and the establishment of the circa 242 forest monitoring plots will be around Nu.262.75 millions of which a total of Nu.22.15 millions is available from RGOB and the Bhutan Trust Fund for Environmental Conservation. The land cover and inventory preparation (Phase 1) will cost Nu.97.78 millions and the inventory and sampling plots establishment (Phase 2) will cost Nu.164.97 millions.
Data quality and projection risk assessment (who and how)	Since the forest cover survey will also involve provision of general forest inventory data and forest monitoring point data, the quality of this survey should be much better than previous land cover surveys. Use should be made of staff used in previous land cover surveys so as not to lose knowledge gained at that time, especially as this means inter-departmental collaboration.

ANY SUPPLEMENTARY INFORMATION:

Land cover report, statistics on land cover and forest inventory, maps showing location of 242 forest monitoring sites. It is also considered important that a cross-sectoral monitoring system be established to track where forest losses are occurring on an annual basis. A start can be made on this through analysing data available in the Forest Management Information System (FIMS) to establish reporting rates on encroachment in to forest areas by housing developers, utility suppliers (water, electricity sites/lines), farmers, and illegal loggers.

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INDICATOR CODE : RNR 7

SIMPLIFIED NAME OF INDICATOR: RNR Marketing Facilities (One-Stop Farmers' Shops-OSFS)

TYPE OF INDICATOR: Input

INDICATOR DESCRIPTION:

Number of fully functioning 'One Stop Farmer Shops' in Bhutan is increasing

RATIONALE FOR INDICATOR:

'One Stop Farmer's Shops (OSFS)' are like any other business shops selling special farm related inputs, goods and services. The inputs will be stocked and sold in these OSFS outlets to the farmers at various locations. In addition to procuring and providing various agricultural inputs for sale to farming households, the OSFS will engage in buying RNR products from farmers and will sell them to interested buyers. The OSFS will be operated by individuals, farmers' groups or cooperatives.

The main objectives of farmers shops are: (i) contributing to the delivery of RNR services; (ii) improving and increasing RNR production and acting as a point of sale; (iii) Marketing of surplus produce of the local farmers; (iv) bringing in additional income to farmers; (v) providing employment for rural youth, and (vi) contributing to curbing the rural urban migration.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for One Stop Farmer Shops: measured in numbers of functioning shops											Projections for indicator (targets) under PAF					
	2000	2001	2002	2003	2004	2005	2006	2007	2008*	2009	2010	2011	2012	2013			
												T-1	T	T+1	T+2		
10th FYP targets												0	0	3	10	25	50
Actual achieved												0	0	3	4		

*Reference value (baseline) is the number of One Stop Farmer Shops in 2008 (the year prior to the start of the 10th FYP). This reference value acts as the baseline for monitoring progress with future targets for this indicator.

 DAMC administrative records  Up-dated spreadsheet databases

ANALYSIS OF INDICATOR BEHAVIOUR:

Since this activity is new to the MOAF after creation of the DAMC (initiated after the merging of the Agricultural Marketing Services in DOAF with the Cooperatives Programme from the Ministry of Home and Cultural Affairs), there are no significant trends to analyse so far. Three OSFS have been established already in Tashigang, Mongar and Shemgang. A target of 100 OSFS has been suggested by DAMC; however, the number in the FA was a maximum of 40 which has been increased to 50 in the new PAF indicator RNR 7 here by DAMC.

OTHER RELATED INDICATORS:

No of farmers accessing an OSFS for inputs or marketing produce is increasing
Number of farmers using RNR services provided by an OSFS is increasing
Number of individuals employed at all OSFS through private businesses, farmers' groups or cooperatives is increasing

INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forestry, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

YontenGyamtsho, Chief Marketing Officer of Farmer Group and Cooperatives Management Division, Department of Agricultural Marketing and Cooperatives, Ministry of Agriculture & Forestry
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METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed for this indicator are number of OSFS fully functioning. To assess that each OSFS is fully functioning a tracking sheet will be prepared with a range of data to be collected e.g. <i>OSFS Monitoring Sheet</i> which will contain data on date of start of OSFS, stock size and types of inputs, sales of inputs, value of marketed produce, number of users, number of employees, number of RNR services provided, availability of internet based market information for farmers, cost of renovating or newly building OSFS, cost of stock start-up, etc.
Data sources (what is the collection instrument)	Primary data are collected for this indicator using a simple <i>OSFS Monitoring Sheet</i> for entry into an Excel spreadsheet for analysis.
Data collection (who is responsible for collecting)	Data can be collected by the IT officer of DAMC with support from the <u>Chief Marketing Officer of CDD</u> . Collection can be done annually. DAMC is planning to establish an IMS with relevant staff as soon as possible.
Data processing (who carries out data entry and data processing and how)	Data entry is made into Excel spreadsheets and analysed for totals, average, percentages etc. This can be carried out either by the <u>Chief Marketing Officer</u> , CDD at DAMC or by a IT officer at DAMC
Data presentation (how)	Data can be presented in the form of a spreadsheet together with charts (pie, graph, histogram, site photographs) and a written report with case studies of successful and weak OSFS.
Data reporting (by whom to whom)	An annual up-dated <i>Indicator Technical Fiche RNR 7</i> is to be compiled by the <u>Chief Marketing Officer, CDD</u> at DAMC supported by an IT officer at DAMC. The <i>Fiche RNR 7</i> is to be submitted quarterly to the <u>Chief of Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu in July in each year in time for incorporation into the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i> . This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the <i>RNRSP Financing Agreement</i> and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release.
Inputs required for data management (when and by whom)	Around one month of an IT Officer's time per year, who is attached to the IMS at DAMC per will be required to keep an OSFS database, and to prepare a monitoring form for gathering information on a range of indicators at each OSFS.
Cost of verification	Low cost of verification; can be absorbed within current budget of DAMC. Will require visits to each OSFS quarterly to assess implementation progress and to collect monitoring data.
Data quality and projection risk assessment (who and how)	Since this data is mainly from administrative information readily available to DAMC and from simple OSFS Monitoring Sheets, the quality of data should be accurate and reliable. The risk of not achieving the targets as set for this indicator may involve delays in release of funding or come from difficulties in finding sound operators for each OSFS.

ANY SUPPLEMENTARY INFORMATION:

Attach copies of OSFS half yearly/annual reports to the file for Indicator RNR 7 for all relevant years during the RNRSP that is funded through the EU.

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INDICATOR CODE : RNR 8
SIMPLIFIED NAME OF INDICATOR: Road Access
TYPE OF INDICATOR: Outcome
INDICATOR DESCRIPTION:

Percentage of rural population living more than 1 hour from a road head in Bhutan is decreasing

RATIONALE FOR INDICATOR:

Rural access roads are important to farmers as they are used to import inputs and to export agricultural produce. Also, if there are no access roads, traders are unlikely to visit farms to carry out bulk buying. This indicator contributes to GNHC Policy Theme 3.1 Improved Common Services and contributes to good governance.

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for access roads indicator: measured in percentage of rural population living more than 1 hour from a road head										Projections for indicator (targets) under PAF			
	2000	2001	2002	2003	2004	2005	2006	2007	2008*	2009	2010	2011 T	2012 T+1	2013 T+2
10th FYP targets									47	43	39	35	31	20
Actual achieved										47	43			
'Control' data	60								47					

*Reference value (baseline) is percentage of rural population living more than 1 hour from a road head. This reference value acts as the baseline for monitoring progress with future targets for this indicator.

	RNR Census (10 year)	100% sample
	DOA Annual Agricultural Statistics Survey	10-30% sample survey

ANALYSIS OF INDICATOR BEHAVIOUR:

There has been a significant improvement in rural road access since the RNR Census of 2000 up to the RNR Census of 2008. Trends since 2008 have been patchy; the trend is still improving but not at the set target rate.

OTHER RELATED INDICATORS:

Number of Gewog centres linked to motorable access road is increasing by 2013

INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forestry, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

Tenzin, Chief Engineer, Engineering Division, Department of Agriculture, Ministry of Agriculture & Forestry
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METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Primary data needed are farmers' assessments of how long it takes to walk to a road head from their farms.
Data sources (what is the collection instrument)	Primary data are collected for this indicator using a <i>farming household questionnaire</i> . A standard questionnaire has been prepared for the Renewable Natural Resources Census of farming households (carried out every 10 years) and for the annual 10% farming household survey which uses the same questionnaire.
Data collection (who is responsible for collecting)	Primary data are collected at farm level by RNR teams comprising agriculture, livestock and forestry extension workers who are based at district and gewog administrative levels. In some circumstances farmers are interviewed at RNR centres or are gathered at convenient places when it is difficult to reach scattered households. The RNR extension officers are well trained in the use of the questionnaire and are familiar with the content.

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Stage in Data Management	Description
Data processing (who carries out data entry and data processing and how)	In the recent past (2009), Agriculture Extension Officers from all the Districts met in one location in March and carried out data entry supervised by IMS staff. In the past data entry has been done using CSPro database; SPSS has also been use for tabulation and analysis. The National Statistics Bureau has been used to assist with analysis and tabulation and to provide quality control over data when needed.
Data presentation (how)	Preliminary data in the form of spreadsheets are normally available in April/May. Final publication of the <i>Agricultural Statistics Yearbook</i> can appear as late as July or August. Annual totals of metric tonnes of fruits, nuts, and vegetables produced and sold for the domestic and international markets within Bhutan are presented in the form of a historical timeline that is posted on the <i>Country STAT-Bhutan</i> website by PPD using results from the 10 year Census and the annual 10-30% sample data. Data are available for the period 2008 to 2010.
Data reporting (by whom to whom)	An annual up-dated <i>Indicator Technical Fiche RNR 8</i> is to be compiled (from IMS source in DOA) by the <u>Chief Engineer</u> responsible for this PAF indicator and submitted annually to the <u>Chief of Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu in August/September in each year in time for incorporation into the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i> . This report is used to aid decision making on budget releases during the Joint Annual Review Meeting of the RNRSP (held between RGOB and EU in September of each year). These annual progress reports consolidate up-dates on all technical indicators defined in the <i>RNRSP Financing Agreement</i> and will enable the EC to trigger the release of both Fixed Tranche and Variable Tranche amounts based on the currently agreed criteria and the schedule of release.
Inputs required for data management (when and by whom)	Since the data is already being collected by the Department of Agriculture as part of their regular programme, no extra inputs are required for data management of this indicator.
Cost of verification	No extra costs are envisaged. This is cost efficient when compared to the cost of the 2008 Census which was 17.66 million Ngultrums; mainly due to field allowance costs and transport for supervision.
Data quality and projection risk assessment (who and how)	<p>Maps showing new rural access roads can be used as a check to confirm the trends given by the farmers. A GIS layer showing all main and rural access roads can use an algorithm to assess the 1 hour from an access road indicator; the GIS can then calculate this indicator based on an overlay of farming household locations. This model should be considered by MOA as an extra checking/ control mechanism.</p> <p>Risk of not achieving the % targets by the end of the 10th FYP is possible if the current impetus for farm road construction lessens for whatever reason, e.g. funding sources dry up or DOA is unable to meet the targets due to terrain or other problems.</p>

ANY SUPPLEMENTARY INFORMATION:

Attach copies of Agricultural Statistics Reports for all relevant years showing this data. A main/rural road map at 1:250,000 scale showing the location of all farming households could be prepared using a GIS and analysed.

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INDICATOR CODE : RNR 9

SIMPLIFIED NAME OF INDICATOR: Enabling institutional instruments

TYPE OF INDICATOR: Input

INDICATOR DESCRIPTION:

Minimum of three legislative amendments, policies and strategies formulated, enacted and/or endorsed for RNR sector out of six prioritised under the EU's RNRSP budget support in Bhutan by 2013

- 1) Number of legislative amendments prepared by the MOAF that are ratified by the Bhutanese Parliament
- 2) Number of new or amended policies prepared by MOAF are endorsed by the Council of Ministers
- 3) Number of new or amended strategies prepared by MOAF are endorsed by the Minister for MOAF

RATIONALE FOR INDICATOR:

Legislative amendments will be required under the revision of the Forest and Natural Conservation Act in order to strengthen the integrity of Bhutanese forest cover and conservation of resources (1 Act).

Policy amendments are required to enable a National Food and Nutrition Security Policy, a National Forest Policy, and a National Biodiversity Policy in order to strengthen food security and conservation of forest and biodiversity resources (3 Policies).

Strategy amendments are required to strengthen management of Non-Wood Forest Products and Protection of Agricultural Land by providing field staff with necessary guidelines for managing NWFP and conservation/protection of agricultural land (2 Strategies).

INDICATOR HISTORICAL TRENDS AND FUTURE PROJECTIONS:

Year	Historical trends for indicator										Projections for indicator (targets)			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*	2010	2011	2012	2013
											T-1	T	T+1	T+2
Target:											0	0-1	0-1	0-1
Actual:											1	1		
Acts											0			
Policies											0	1		
Strategies											1			

*Reference value for the total of three types of instruments (Acts, Policies, and Strategies) is 0 in 2009. This reference value acts as the baseline for monitoring progress with future targets for this indicator RNR 9.

ANALYSIS OF INDICATOR BEHAVIOUR:

The National Forestry Policy has been approved by the Council of Ministers in July 2011. The Strategy for Protection of Agricultural Land was finalized and was approved by the Minister in 2010. Consequently 2 out of the target 3 instruments have already been achieved. The MOAF will have national consultations with the Districts concerning the National Food & Nutrition Security Policy in September/ October 2011, after which it will be sent for approval to the Council of Ministers. The Forest and Natural Conservation Act of 1995 is under revision, and a first draft has been prepared with inputs from a consultant fielded by the FAO. Information on the National Biodiversity Policy and the Strategy for management of NWFP is pending.

OTHER RELATED INDICATORS:

During the 10th FYP a number of other enabling instruments are at various stages of enacting. The National Irrigation Policy (revised) has been submitted to the Council of Ministers for approval. The RNR Subsidy Policy is still in draft form and is yet to be presented to the Minister. The final draft of the Subsidized Timber and NWFP Allotment Policy 2011 has been submitted to the Gross National Happiness Commission for review. A Policy on Timber Pricing and Marketing was drafted in 2010. A Policy on Protection of Prime Agricultural Land is under process in 2011.

To ensure good governance in the management of Bhutan's natural resources, the following policies, strategies, frameworks and guidelines have already been prepared during the current 10th FYP:

1. Development and Management Strategy of NWFP in 2008
2. National Community Forestry Strategy in 2010
3. National Plantation Strategy for Bhutan in 2010
4. Bhutan National Human-Wildlife Conflicts Management Strategy in 2008
5. Regulatory Framework for Biological Corridors in Bhutan in 2010
6. Interim Framework for Collection and Management of NWFP in 2009
7. Wang River Basin Management Framework in 2009
8. Guidelines for Farm Road Development in 2009

No livestock sub-sector enabling instruments are included in indicator RNR9; however, a Livestock Production Policy is currently under preparation.

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INSTITUTION RESPONSIBLE FOR INDICATOR OVERSIGHT:

Policy and Planning Division, Ministry of Agriculture and Forestry, Thimphu, Bhutan

KEY PERSON RESPONSIBLE FOR INDICATOR MANAGEMENT:

Agriculture Focal Point:

Ms. Shanti Devi, Policy and Planning Officer, Policy and Planning Division, Department of Agriculture, Ministry of Agriculture and Forestry, Thimphu, Bhutan
Phone: 17616120
E-mail: raltz2008@gmail.com

Livestock Focal Point:

Mr. Sherab Wangchuk, Policy and Planning Officer, Policy and Planning Division, Department of Agriculture, Ministry of Agriculture and Forestry, Thimphu, Bhutan
Phone: 17670404
E-mail: shreabtb@moaf.gov.bt

Forestry Focal Point:

Mr. Rinzin Dorji, Policy and Planning Officer, Policy and Planning Division, Department of Agriculture, Ministry of Agriculture and Forestry, Thimphu, Bhutan
Phone: 17936276
E-mail: rzn_dorji@yahoo.com

METHODOLOGY FOR INDICATOR MANAGEMENT:

Stage in Data Management	Description
Data type selection (what is data to be collected and its level of aggregation)	Documents in the form of Acts, Policies or Strategies (electronic copies of the same).
Data sources (what is the collection instrument)	Processes involve consultations at all levels of Government and participation of local communities in many cases. This may involve workshop outputs, questionnaires, key stakeholder dialogues.
Data collection (who is responsible for collecting)	Documents are prepared by Task Forces set up by the concerned Departments. In some cases consultants are hired to assist with the development of the enabling instruments.
Data processing (who carries out data entry and data processing and how)	<p>In case of Policies: (1) A first draft is produced with inputs from TA and Task Force Members; (2) The draft is presented to senior management within MOAF for comments; (3) The second draft is produced for consultations with stakeholders at the regional level; (4) The third draft will then be consulted at the National level; (5) The fourth draft will then be presented to the RNR level GNH Committee; (6) The final draft will be submitted to GNHC for review and then will be presented to the GNHC members; (7) The final version will then be submitted to the Cabinet for comments; (8) The draft will then be refined with incorporation of comments from the Cabinet ministers and it is then considered to be approved version for publication.</p> <p>In case of Acts: A draft will be produced through consultations and taking into perspective other relevant legislations to avoid contradictions. The draft will then be submitted to the National Assembly for discussions.</p> <p>In the case of Strategies (& Frameworks): The concerned agencies usually outsource the task to national consultants.</p>
Data presentation (how)	Enabling instruments are presented in the form of a set of published documents with an ISBN number and as electronic files in PDF format
Data reporting (by whom to whom)	The up-dated list showing status of enabling instruments can easily be synchronised with the preparation of both the <i>Annual Progress Report on the Performance Assessment Framework (PAF) for the RNRSP</i> (July/August each year) and on the <i>Half-Year Progress Report</i> (due January/ February each year). Integrated annual and half-year up-dated <i>Indicator Technical Fiches</i> are to be compiled by the two/three <u>Planning Officers</u> responsible for this PAF indicator at the Policy and Planning Division and submitted to the <u>Chief of Policy and Planning Division</u> at the Ministry of Agriculture and Forestry in Thimphu.
Inputs required for data management (when and by whom)	1-2 days per year are needed by the 2 <u>Planning Officers</u> to check status of the indicator, collect documents and up-date the <i>Indicator Technical Fiche RNR 9</i>
Cost of verification	No cost. The list and current set of documents is checked by the <u>Chief for Policy and Planning</u> at MOAF to assess if the planned PAF targets are being met.

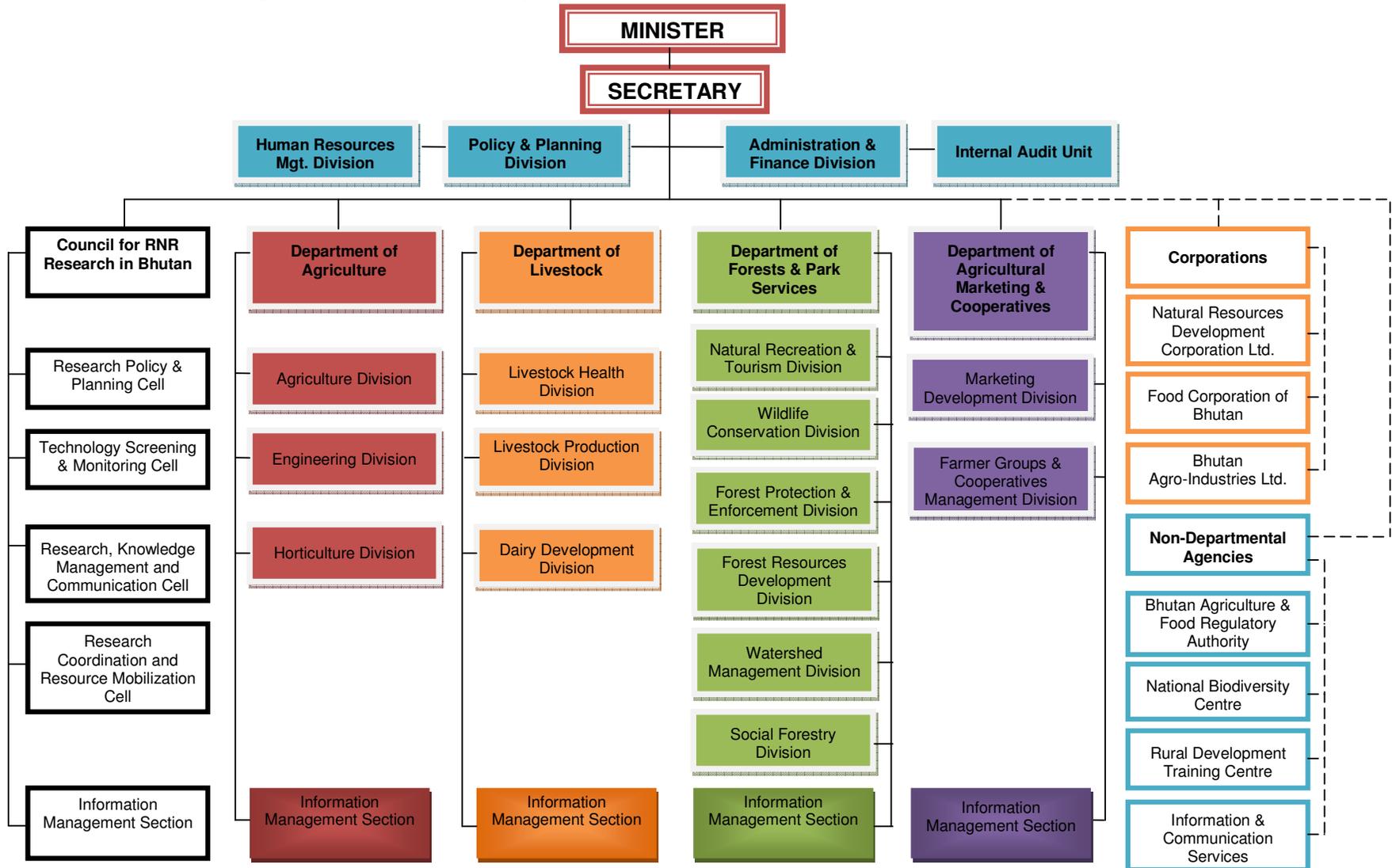
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Stage in Data Management	Description
Data quality and projection risk assessment (who and how)	If there are any risks that the indicator will not meet its targets as set within the PAF, then <u>Chief of Policy and Planning Division</u> should take appropriate action to reduce or eliminate the risk. There may be a risk that Acts and Policies are not endorsed by the Parliament or the Cabinet of Ministers. Similarly, there is a risk that strategies and frameworks may not be approved at Ministerial level.

ANY SUPPLEMENTARY INFORMATION:

Attach copies of Acts, Policies, and Strategies to the file for Indicator RNR 9 for all relevant years.

Annex 7: MOAF Organisation Chart, September 2011



Annex 8: M&E Assessment Questionnaire/Checklist

*A Semi-structured Checklist/Questionnaire for IMS Staff expected to be involved in
Collecting Data for the Performance Assessment Framework (PAF) Indicators
for the Renewable Natural Resources Sector Programme*

Date received the checklist/questionnaire?

Date of completion of checklist/questionnaire?

Name of IMS Staff Member.....

Working in which Department for Information Management Section (IMS)

List all the qualifications that you have here (Degree, Diploma, Certificate including College/University
and year graduated).....

.....
.....

**Box A: What type of information (apart from the annual statistical survey) is collected by your
Information Management Section within the MOAF for monitoring and/or evaluation of Renewable
Natural Resources (RNR)? (List main types here for the past 3 years)**

*Describe any special monitoring and evaluation surveys carried out for the following RNR subject
areas in the past 3 years (who requested the survey, how long did the survey take and what type of
data collection tools were used):*

1) Rice production

2) Horticulture production

3) Organic farming

4) Milk production

5) Meat production

6) Agricultural marketing facilities

7) Access road construction

8) Forest cover and forest type inventories

9) Institutional strengthening (legal frameworks, human resource development etc.)

10) Any other special data that is monitored by you on a regular basis (list them here)

Box B: Who were the main users of any data that you have collected in the past 3 years? (*Describe who the users are and how the data is generally used*)

Box C: What are your main methods of data collection? (*Describe method(s) used and list any special questionnaires or monitoring forms that you used in your job in the past 3 year; provide examples if available*)

Box D: How do you carry out data entry, processing and analysis? (*Describe the system for processing, and who processes and analyses the data, and through what type of analysis*)

Box E: How do you present your data to the user? *(Describe reporting system, type of data, how much, format, degree of accuracy, level of detail, how often collected, supply samples of a report structure if available).*

Box F: What is your data storage system? *Describe how you store the data for future use, where are they stored and any relationship between storage and processing*

Box G: What are your main constraints on data management? *Describe type of constraint e.g. equipment, staff number, time, lack of training, any other*

Box H: Are there any incentives given for providing information to users on time? *(Describe role of data providers, survey allowances, any penalties for late provision, any feedback mechanism given to data providers whether positive or negative)*

Box I: What computer hardwares are available? *Describe computer specifications, number and location, availability of consumables, how up to date is your hardware/ how old etc.*

Box J: What computer softwares are used by you in your work and what are they used for? *Describe operating systems, word-processing, spreadsheet, relational database, graphics, project management, GIS, anti-virus system etc.*

What type of trainings have you received on these software systems in the past 3 years? *Describe type of training, in-country/overseas, duration, whether certificated or not*

What type of training would you like to receive in future to improve your job skills?

Box K: Do you use the PlaMS planning and monitoring system as part of your job? *Describe exactly what you use it for, how often, and what time of year.*

What type of training have you received in the use of PlaMS? *List the type, number and duration of training*

Do you consider that you need more training in the use of PlaMS? *Describe type of training that you need.*

Box L: Any other comments on information management, M&E and reporting that you would like to make?

Thank you for your cooperation

Annex 9: List of Active Donor Project in the RNR Sector (30 September 2011)

	Project Title	Funding Agency	Agency	Total Budget (original currency)	Total Budget (€)	Budget under 10 th RNR (€)	Start Date	End Date
1	RNR Sector Programme Support	EU	MOAF	€ 5.6 M	5.6 M	5.6 M	Jul-2011	Jun-2014
2	RNR Climate Change Adaptation	EU	MOAF	€ 3.6 M	3.6 M	3.6 M	Pipeline	
3	Sustainable Environment Support Programme (SESP)	GOD/UNDP/UNEP	DOA	DKK 20 M US\$ 0.86 M	3.30 M	2.75 M	Jan-2010	Dec-2013
4	Sustainable Land Management Project (SLMP)	GEF/WB	DOA	US\$ 7.6 M	5.43 M	1.58 M	Mar-2006	2012
5	Agriculture Sector Support Project (ASSP)	EU	DOA	€ 5.25 M	5.25 M	4.08 M	Jul-2007	Dec-2011
6	Machinery Support to Farm Road Construction	JICA	CMU	YEN 597.000 M	4.59 M	4.59 M	Mar-2011	Mar-2014
7	Supply of Farm Machineries (KRII Utilisation Plan IV)	Japan	AMC/DOA	73.106 M BTN	1.12 M	1.12 M	Jul-2008	Jun-2013
8	Construction of Farm Roads (KRII Utilisation Plan IV)	Japan	DOA	57.2 M BTN	0.88 M	0.88 M	Jun-2008	Jun-2012
9	Horticulture Support through (KRII Utilisation Plan IV)	Japan	DOA	47.7 M BTN	0.73 M	0.73 M	Jun-2008	Jul-2013
10	Horticulture Research and Development	Japan	RC Wengkharr	In kind	In kind	In kind	Jan-2010	Dec-2012
11	Shifting Cultivation	ICIMOD/IDRC	RC Wengkharr	USD 0.05 M	0.034 M	0.034 M	Jun-2009	May-2012
12	Improved livelihood for bee products in the Himalayas	ICIMOD	RC Jakar	USD 0.012 M	0.008 M	0.008 M	Jun-2009	May-2012
13	Strengthening of Agriculture Marketing System in Bhutan	GOI	DAMC	65.5 M BTN	1.007 M	1.007 M	Jul-2008	Jun-2012
14	Market Access and Growth Intensification Project (MAGIP)	IFAD	6 Eastern Dzongkhag	273.0 M BTN	4.2 M	4.2 M	2011	2015
15	Support to the Livestock Sector Project (SLSP)	EU	DOL	€ 4.60 M	4.60 M	3.17 M	2006	Dec-2011
16	Strengthening of Livestock Development Initiatives in Bhutan	GOI	DOL	624 M BTN	9.6 M	9.6 M	Mar-2008	Jun-2013
17	Support to BAFRA from DOL GOI Project	GOI	BAFRA	40.75 M BTN	0.626 M	0.626 M	Mar-2008	Jun-3013
18	Bio-Safety Framework	GEF	BAFRA	USD 0.869 M	0.601 M	0.601 M	Feb-2010	Feb-2014
19	PFMP-II Participatory Forest Management Project (BH 27)	Helvetas/SDC	DOFPS	CHF 3,23 M	2.20 M	1.76 M	Jul-2007	Jun-2012
20	Plantation along Wangchuk Basin	DGPC/HDI	SFD/DOFPS	22.75 M BTN	0.35 M	0.35 M	Jul-2008	Jun-2013
21	Conservation and Protection of local Tsenden	BTFEC	SFD/DOFPS	12.25 M BTN	0.188 M	0.188 M	Jul-2009	Jun-2012
22	Development of Sustainable Energy for Rangelands (DESER II)	ICIMOD	WMD/DOFPS	€ 0.023 M	0.023 M	0.023 M	2009	2011
23	Wangchuk Centennial Park	BTFEC	WCP	13.5 M BTN	0.207 M	0.207 M	Jul-2009	Jun-2012
24	Support to UWICE	MacArthur	UWICE	USD 1.5 M	0.980 M	0.980 M	Oct-2004	Dec-2013
25		BTFEC		USD 0.3 M	0.127 M	0.127 M	2006	20013
26		Paul Getty		USD 8.1 M	5.57 M	5.57 M	2007	-
27	Sustainable Community Based Tourism Development (TshachhuPhu & Chubu Tshachhu)	BTFEC	NDC	USD 0.1 M	0.069 M	0.069 M	2010	2012
28	Bio-Prospecting Phase I	BTFEC	NBC	15.0 M BTN	0.231 M	0.231 M	Jul-2009	Jun-2012
29	Tiger Conservation Project (TCP)	WWF	DOFPS	USD 0.833 M	0.60 M	0.30 M	2006	2015
30	Tree-Ring Research and Capacity Building in Bhutan	Colombia University	Yusipang & Jakar RC	USD 0.047 M	0.034 M	0.027 M	2007	2012
31	Medicinal Plants and Herbal Products in the Eastern Himalayas (supply chain research)	ICIMOD/CFC/FAO	RC Yusipang	USD 0.045 M	0.024 M	0.024 M	2007	2012
Totals here are estimates based on € 1= BTN 65 and do not include closed projects at Sept 2011				Totals=	61.78 M	54.03 M		
Main Data Source: 'Project Profiles 2010' from PPD, MOAF (includes additions by this mission)				EU=	19.05 M	16.45 M		

Annex 10: Minutes of Wrap-Up Meeting in Bhutan, 3 October 2011

Minutes of the wrap-up meeting at the Minister's conference Room, Ministry of Agriculture and Forests, at 9:30 am 3rd October 2011

Present:

	Name	Designation	Organisation
1	SherubGyaltshen	Secretary and Chairman of Meeting	MOAF
2	Karma Dukpa	Director	DOFPS
3	Ms.KinleyTshering	Chief Horticulture Officer	Horticulture Division, DOA
4	YontenGyamtsho	Chief Marketing Officer	Cooperatives Division, DAMC
5	NgawangPem	Chief Human Resources Development	Human Resources Management Division, MOAF
6	TashiDorji	Chief Livestock Officer	Dairy Development Division, DOL
7	Ganesh B. Chettri	Agriculture Specialist	Agriculture Division, DOA
8	ChenchoNorbu	Director	DOA, MOAF
9	RinzinWangmo	Senior Programme Coordinator	GNHC
10	KarpoDukpa	Statistician	PPD, MOAF
11	Tenzin	Chief Engineer	Engineering Division, DOA, MOAF
12	KinleyTshering	Chief Forestry Officer	Forest Resources Development Division, DOFPS
13	KesangTshomo	Programme Manager	National Organic Programme, DOA
14	Karma Sonam	Deputy Chief Planning Officer	PPD, MOAF
15	David William Billing	Senior Rural Development Expert	Expert for EU Delegation to Bhutan

1. *Secretary* – Welcomed everyone to the meeting and requested that Mr David W. Billing make his wrap-up presentation
2. *David Billing* – Started by greeting all the officials present and then presented his main findings in the form of a PowerPoint presentation.
3. *Secretary* – Thanked Mr. Billing for his clear and lucid presentation, and then made five main points, before opening the floor to others:
 - a. The targets set in the Performance Assessment Framework (PAF) need to be linked to concrete activities aimed at achieving the targets;
 - b. Statistics within all departments need improving and actions will be needed to ensure that they are collected to a high standard;
 - c. The Central Government Programmes have weak links to the Dzongkhags and Gewogs at an institutional level, even though there may be stronger inter-personal links;
 - d. There is a need for better engagement between local and central levels;
 - e. With regard to climate change the emphasis would be on adaptation not mitigation as was mentioned in the Special Conditions to RNRSP.
4. *Director DOA* – Asked a number of questions regarding:
 - a. How the targets set aim to achieve food security in Bhutan;
 - b. How the provision for training in M&E and information management can be achieved in the short-term;
 - c. How the organic programme links to the regular programmes where production is often considered to already be conservation compliant and also organic in nature e.g. milk production and rice production.
 - d. He mentioned that some mitigation measures would be needed for climate change programme, not only adaptation.
 - e. He mentioned the need to continue on from the lessons learnt from the Sustainable Land Management Project, and that these could be part of the RNRSP in some form or other.

5. *Agriculture Specialist DOA* – Made the following comments:
 - a. The 9 indicators cover the whole Ministry and this might spread resources too thinly.
 - b. How much expenditure was to be used to achieve targets in each policy area, this was unclear.
 - c. How was priority to be set across the concerned policy areas?
 - d. Data management is an on-going issue in MOAF, and that this was a real challenge to take up during the period of the RNRSP.

6. *Director DOFPS* – Made the following comments:
 - a. Whether new baselines were to be set for the 3 year period of the RNRSP
 - b. Whether the local institutions were efficient and effective enough to achieve the aims of the RNRSP
 - c. PlaMS, statistics and M&E strengthening were required.

7. *Statistician, PPD* – Mentioned that support was being provided by FAO related to the Global Strategy for Improving Agricultural and Rural Statistics. He informed the house that the MOAF has become a member to the Regional Steering Group for implementing the Global Strategy. He also mentioned that it would take some 2-3 years to have the global strategy fully implemented in the country.

8. *Secretary*– Asked Mr. Billing if he would like to respond to some of these points.

9. *David Billing* – Made the following points:
 - a. Appreciated that there appeared to be concern across all agencies about the need to improve M&E, statistics and data management, including the use of PlaMS.
 - b. Stated that it was the Ministry's role to prioritise resources for the 9 policy areas defined in PAF, and that it was not a matter of equal division of resources but of allocating resources as needed to achieve the targets set. He also stated that the RNRSP has allocated Euro 5.6 million across 3 years whereas previous EU projects often covered 5-6 years with the same budget allocation or less.
 - c. Mentioned that the baselines and targets set broadly followed those in the 10th FYP, but where baselines and targets were deemed inaccurate, unreliable or unachievable, they had been changed by the Focal Point for the particular indicator together with the Expert.
 - d. Mentioned that the new climate change project would define more clearly the roles of adaptation and mitigation in the RNR sector, and that what was stated in the RNRSP Special Conditions would be somewhat superseded by the new Climate Change Financing Agreement.

10. *Secretary*– Thanked Mr. Billing for his comments and made the following final statement:
 - a. He emphasised that there was a need to strengthen the IMS in each department through extra staffing, training, restructuring, and methodology enhancements, and that this could not wait for the HRD Master Plan. He instructed PPD to prepare an executive order requesting the IMS strengthening in each department, and the creation of an IMS at DAMC and that proposals should be prepared by each.

11. *Secretary*– Thanked all those for attending the wrap-up meeting, and closed the meeting at 11.30 am

ADMINISTRATIVE ANNEXES

Annex 11: Itinerary

Dates	Nature of Task/Work	No. of working days
Friday 2 September	Home base research work	1
Saturday 3 Sept		0
Sunday 4 Sept		0
Monday 5 Sept	Home base research work	1
Tuesday 6 Sept	Home base research work	1
Wednesday 7 Sept	International travel	1
Thursday 8 Sept	Arrive Delhi and Briefing EU	1
Friday 9 Sept	Travel to Paro (Bhutan)	1
Saturday 10 Sept	Bhutan	0
Sunday 11 Sept	Bhutan	0
Monday 12 Sept	RNR staff meetings on policy/PAF	1
Tuesday 13 Sept	RNR staff meetings on policy/PAF	1
Wednesday 14 Sept	RNR staff meetings on policy/PAF	1
Thursday 15 Sept	RNR staff meetings on policy/PAF	1
Friday 16 Sept	RNR staff meetings on policy/PAF	1
Saturday 17 Sept	Bhutan	0
Sunday 18 Sept	Bhutan	0
Monday 19 Sept	RNR staff meetings on policy/PAF	1
Tuesday 20 Sept	RNR staff meetings on policy/PAF	1
Wednesday 21 Sept	RNR staff meetings on policy/PAF	1
Thursday 22 Sept	Policy Analysis	1
Friday 23 Sept	M&E Questionnaire Analysis	1
Saturday 24 Sept	Bhutan	0
Sunday 25 Sept	Bhutan	0
Monday 26 Sept	Finalise PAF validation documents	1
Tuesday 27 Sept	Finalise PAF validation documents	1
Wednesday 28 Sept	Final report outline preparation	1
Thursday 29 Sept	RNR staff meetings	1
Friday 30 Sept	Preparation for Wrap-up	1
Saturday 1 October	Aide Memoire Preparation	1
Sunday 2 Oct	Bhutan	0
Monday 3 Oct	Wrap-up Meeting in Ministry	1
Tuesday 4 Oct	Final meetings at MOAF	1
Wednesday 5 Oct	Bhutan - Delhi /Debriefing EU	1
Thursday 6 Oct	International travel	1
Friday 7 Oct	UK Report Writing	1
Saturday 8 October	UK	0
Sunday 9 October	UK	0
Monday 10 Oct	Report Writing	1
Tuesday 11 Oct	Report Writing	1
Wednesday 12 Oct	Report Writing	1
Thursday 13 Oct	Report writing	1
Friday 14 Oct	Report writing	1
Saturday 15 Oct	UK	0
Sunday 16 Oct	UK	0
Monday 17 Oct	Report Finalisation	1
	Total	33

Annex 12: List of People Contacted

	Name(s)	Position and Organization	RNRSP/PAF Focal Point
1	DashoSherubGyaltshen	The Honourable Secretary , Ministry of Agriculture and Forests	
2	NorbuWangchuk	MOAF Focal Point , Gross National Happiness Commission (GNHC)	Donor Coordination Focal Point
3	Ms.RinzinWangmo	LG Sector Programme Focal Point , Local Development Division, Gross National Happiness Commission (GNHC)	
4	Tenzin Chophel	Chief Planning Officer , Policy and Planning Division (PPD), Ministry of Agriculture and Forests	RNR Enabling Instruments Focal Point
5	Karma Sonam	Deputy Chief Planning Officer , Policy and Planning Division (PPD), Ministry of Agriculture and Forests	PlaMS Focal Point
6	Ms. Shanti Devi	Planning Officer (Agriculture Focal Point) , Policy and Economic Planning Section, Policy and Planning Division (PPD), Ministry of Agriculture and Forests	
7	SherubWangchuk	Planning Officer (Livestock Focal Point & PlaMS Coordinator) , Policy and Economic Planning Section, Policy and Planning Division (PPD), Ministry of Agriculture and Forests	PlaMS Focal Point
8	RinzinDorji	Planning Officer (Forestry Focal Point) , Policy and Economic Planning Section, Policy and Planning Division (PPD), Ministry of Agriculture and Forests	
9	KarpoDukpa	Statistician/Programmer , Information Management Section, Policy and Planning Division (PPD), Ministry of Agriculture and Forests	
10	SonamPenjor	GIS Expert , Information Management Section, Policy and Planning Division (PPD), Ministry of Agriculture and Forests	
11	TashiJamtsho	Executive Secretary, Bhutan Climate Summit Secretariat , Policy and Planning Division (PPD), Ministry of Agriculture and Forests	Climate Change Focal Point
12	SangayChophel	Planning Officer , Legal and Natural Resources Section, Policy and Planning Division (PPD), Ministry of Agriculture and Forests	
13	UgyenTshering	Legal Officer , Legal and Natural Resources Section, Policy and Planning Division (PPD), Ministry of Agriculture and Forests	
14	Ganesh B. Chettri	Agriculture Specialist , Department of Agriculture, Ministry of Agriculture and Forests	Rice Production Focal Point
15	Ms KinleyTshering	Chief Horticulture Officer , Department of Agriculture, Ministry of Agriculture and Forests	Horticulture Production Focal Point
16	Dorjee	Citrus Coordinator , Horticulture Division, Department of Agriculture, Ministry of Agriculture and Forests	
17	Tenzin	Chief Engineer , Engineering Division, Department of Agriculture, Ministry of Agriculture and Forests	Access Roads Focal Point
18	Ms.KesangTshomo	National Organic Programme Coordinator , Department of Agriculture, Ministry of Agriculture and Forests	Organic Farming Focal Point
19	Ms.ThinleyYanggom	Agricultural Officer , Information Management Section, Department of Agriculture, Ministry of Agriculture and Forests	
20	Karma Dorji	Executive Director , Bhutan Agriculture and Food Regulatory Authority, Ministry of Agriculture and Forests	
21	Tenzin Dhendup	Director General , Department of Livestock, Ministry of Agriculture and Forests	
22	Dr TashiDorji	Chief Livestock Officer , Dairy Development Division, Department of Livestock, Ministry of Agriculture and Forests	Milk and Meat Production Focal Point
23	NamgayDorji	Deputy Chief Planning Officer and Head , Information Management Section, Department of Livestock, Ministry of Agriculture and Forests	

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	Name(s)	Position and Organization	RNRSP/PAF Focal Point
24	DorjiDrahdul	The Director , Department of Agricultural Marketing and Cooperatives. Ministry of Agriculture and Forests	
25	Ms.Pema Yuden	Chief Marketing Officer , Department of Agricultural Marketing and Cooperatives. Ministry of Agriculture and Forests	
26	Ms.Phub Devi	Senior Marketing Officer , Department of Agricultural Marketing and Cooperatives. Ministry of Agriculture and Forests	
27	YontenGyamthso	Chief Marketing Officer , Farmer Groups and Cooperatives Development Division, Agricultural Marketing and Cooperatives, Ministry of Agriculture and Forests	OSFS Focal Point
28	ChoniDendup	Marketing Specialist , Department of Agricultural Marketing and Cooperatives. Ministry of Agriculture and Forests	
29	KinleyTshering	Chief Forestry Officer , Forest Resources Development Division, Department of Forestry, Ministry of Agriculture and Forests	Forest Cover Focal Point
30	Ms.KezangYangden	Head , Forest Inventory and Data Section, Forest Resources Development Division, Department of Forest and Park Services, Ministry of Agriculture and Forests	
31	SantoshKatwal	Head/Forestry Officer , Information Management Section, Department of Forest and Park Services, Ministry of Agriculture and Forests	
32	Ms.Kinley Dem	Forestry Officer , Information Management Section, Department of Forest and Park Services, Ministry of Agriculture and Forests	
33	Ms.NgawangPem	Chief Human Resources Officer , Human Resources Management Division, Ministry of Agriculture and Forests	HRD Study Focal Point
34	PhubSangay	Chief Statistical Officer , National Statistics Bureau, Thimphu, Bhutan	
35	Ms. Roz Saad	Management Consultant , Support to Local Governance Support Programme (SLGSP), EU Mission Member	
36	Ms. Kristina Buende	Development Cooperation Counsellor , EC Delegation to Bhutan, New Delhi, India	

Annex 13: Terms of Reference for Mission

1. BACKGROUND

Bhutan has undergone major political changes by shifting from an absolute monarchy to a constitutional monarchy and by introducing a move towards democratic Government. The first General Elections, the National Assembly Elections, took place in March 2008, and the new Bhutanese political system and its young democratic institutions are aiming at moving towards good governance, decentralised decision making and development. The 10th Five Year Plan (FYP) for the years 2008-2013 is the main document guiding Bhutan's current development policy. Its objectives are to reduce poverty levels from 23% to 15%, diversifying Bhutan's industrial base, tackling growing unemployment and meeting the growing cost of social service delivery and the political transition in the country. The plan focuses on stimulating faster growth in the productive sectors (agriculture and industry) in conjunction with continued investments in the hydro-power sector. The 10th FYP reiterates the emphasis on protection and conservation of the environment and states that given the accelerated pace of economic and development activities accompanied by increased expansion of infrastructure development, urbanization, industrialisation, population expansion and consumption patterns the environment sector will even require more attention than in former FYPs. Despite rapid economic growth and significant development efforts in the past, around one fourth of the country's people continue to live below the poverty line.

The European Union has supported the Royal Government of Bhutan in its development since 1982. The main area of EU cooperation with Bhutan remains to be the support to rural development, particularly the development of Renewable Natural Resources. In the EU Country Strategy Paper (CSP) 2007-2013 support to the Renewable Natural Resources, to Good Governance, particularly democratisation and decentralisation, and the Trade sector are defined as priority areas. The Multiannual Indicative Programme (MIP) 2007-2010 focuses on support to the RNR and the Good Governance Sector, allocating a total of 8.4 million Euro to both sectors. For both priority areas programmes have been developed during 2009/2010: The Renewable Natural Resources Sector Programme (RNRSP) and the Support to Local Governance Support Programme (SLGSP). Implementation of both programmes under a sector budget support funding modality is envisaged to start during the second half of 2011 with first tranche releases before the end of 2011.

Under the *Renewable Natural Resources Sector Programme (RNRSP)*, EU provides support to the RNR sector policy and programme of the Royal Government of Bhutan, which covers 29 programmes under the RNR 10th FYP.

The overall objective of the RNR 10th FYP is to achieve rural poverty reduction as per Vision 2010, Gross National Happiness and the targets set in the 10th FYP, which are the following: i) the Incidence of rural poverty is reduced to <15% by 2013, ii) the mean annual rural HH cash income is >Nu 35,000 in 2013, iii) the agriculture sector grows with 4%. The Programme Objectives of the RNR 10th FYP are to enhance rural livelihoods, conserve and promote sustainable utilisation of forest and water resources, promote sustainable utilisation of arable agriculture and pasture land resource, and enhance food security. The intervention in support of the RNR sector programme contributes to all Programme Objectives as per RNR 10th FYP.

The results anticipated by the RNR Sector Programme cover improved food security, increased rural income and employment, improved access to natural resources, secure conservation of bio-diversity, improved service delivery and improved common services, all accompanied and enabled through a legal framework and compliance to it. The main

activities relate to the key strategies of the sector programme: Provision of basic services, delivery of extension services, farm mechanisation, strengthening agricultural marketing, developing adequate level of infrastructure, diversifying the economic base of the sector, improving research services, improving planning and management of programmes, improving information management and dissemination, creation of an enabling policy and legal framework, strengthening compliance to policy and legal frameworks.

As per the Financing Agreement signed in April 2011 a Joint Annual Review Mission on the RNRSP will be carried out in 2012 following the release of the first tranche at the end of 2011. This review shall be based on a clearly established sector policy and programme status and well determined baselines and targets as per the Performance Assessment Framework of the Financing Agreement. The RNR sector policy and programmes has progressed since 2010 and a re-assessment is required. The Performance Assessment Framework covers a selection of results and related indicators from the 10th FYP and will be used to assess sector programme implementation under the Financing Agreement and to monitor progress against the third general condition for sector budget support. This reassessment is all the more important since the Government has carried its 10th FYP Mid-term Review in 2010, which introduces some changes to the RNR 10th FYP.

2. OBJECTIVE OF THE ASSIGNMENT

The overall objective of this mission is to obtain updated information on sector policy and programme implementation progress since early 2010 and to establish valid baselines and targets on the Performance Assessment Framework of the EU-funded RNR Sector Programme.

3. SCOPE OF WORK

3.1 Assignments and deliverables

The assignment of the consultant consists of taking stock and analysing recent development and the current status of the RNR sector policy and strategy in Bhutan in order to establish a revised baseline reflecting the moment of first tranche release. The assignment particularly includes assessing the achievements towards the results as outlined in the Performance Assessment Framework as per TAPs of the FA and in determination the baseline on each indicator. Given the indication that the MTR of the 10th FYP has resulted in changes of targets in the RNR sector programme, a re-validation of the selected results and indicators and - if required – proposal of recommendations for adjustments of the PAF on the basis of recent programme developments is part of the assignment.

The consultant will deliver a comprehensive report summarising the methodology applied and the findings and recommendations of the mission. The report shall include an executive summary. It shall reflect comprehensive chapters on the recent developments in the RNR sector policy and strategy, with a particular focus on the status of the rollout and use of the National Planning and Monitoring System, the institutional strengthening process and moves towards increased sector and donor coordination. Other chapters shall evolve around the actual status of implementation and achievements, the results of the MTR of the RNR 10th FYP and a reflection on its implications, an assessment of the validity of the PAF, a summary of the changes to the PAF as agreed with RGoB, the baseline data for the indicators as per PAF, and other relevant elements of the assigned task. The expert shall also express recommendations and concerns relevant to the implementation of the RNR sector programme.

3.2 Approach and Methodology

The expert will start his/her mission with a briefing meeting at the EU Delegation in Delhi and will again come for debriefing meeting to the EU Delegation in Delhi upon return from Bhutan.

Before travelling to Bhutan the expert will contact the EU-contracted expert on Public Finance Management, who is currently working in Bhutan on setting the PFM monitoring framework for the two budget support programmes.

During his/her work in Bhutan, expert will cover the following tasks, but which are not limited to these:

- Familiarise himself/herself with the history and role of the RNR sector in Bhutan and EU support to the RNR sector
- In close collaboration with the concerned Departments of the Ministry of Agriculture and Forests, particularly Policy and Planning Division, assess the latest developments in the sector and the 10th RNR FYP.
- Assess the findings of the Mid-term Review of the RNR 10th FYP, the resulting changes to the RNR sector and their impact on the EU-funded RNR Sector Programme.
- Consult RNR statistics and assess their usefulness and comprehensiveness. In this context develop indicator fiches as per attachment template for each PAF-indicator in joint collaboration with MoAF and possibly other concerned parties
- In particular assess and determine current status of the monitoring and evaluation processes within the Ministry of Agriculture and Forests, including status of the rollout of the Planning and Monitoring System, the institutional development and the sector/donor coordination, which have been assessed as weak during programme formulation.
- Review the validity of the results, indicators and targets as selected under the PAF and proposed revised PAF as per changes introduces by RGoB following the MTR of the 10th FYP.
- Assess programme progress towards the results established in the Performance Assessment Framework by using the indicators as per PAF and/or revised indicators. The established data will serve as baseline for future progress assessment.

The expert is requested to hold a briefing meeting with the Ministry of Agriculture and Forests and the GNHC and other concerned counterparts to present and discuss the mission findings and ensure a mutual agreement on the PAF and the baseline data established. These meetings will be set up in consultation with the counterpart; logistical arrangements and cost will be covered by the Government of Bhutan.

4. EXPERTISE REQUIRED

The mission will consist of one experienced senior expert, who preferably has experience of working in Bhutan. A good command of English (spoken and written) is required.

4.1 Overview and Time Allocation

Expert	Area	Duration
Expert Cat I	Senior Rural Development Expert	33 days

4.2 Profile of the expert

Expert Category I

The expert should have the following educational background and experience:

- Professional qualification: University degree in Rural Development, Agriculture, Economics or any similar field; preferably specialisation on Agricultural Development and/or International Development;
- At least 10 years of general professional experience in rural development and renewable natural resources, including agricultural development, livestock development, forestry;
- Specific experiences in RNR sector policy and sector programme analysis, particularly including institutional assessment, monitoring and evaluation, performance indicators and measurement, statistical analysis;
- Specific experiences with EU-Sector Policy Support Programmes (SPSP), budget support modality and annual review of budget support programmes, experience in similar assignments would be an asset;
- Previous professional experience in South Asian or Asian countries will be an asset; experience in working in Bhutan will be considered a further important asset;
- Demonstrated cross-cultural sensitivity, interpersonal, communication and negotiation skills;
- Excellent written and spoken English.

5. LOCATION AND DURATION

5.1 Starting Date

Expected starting date of the assignment is September 1, 2011. The expert is expected to come for a briefing to the EU Delegation in Delhi before travelling to Bhutan.

Briefings and debriefings with the EU Delegation in Delhi will be arranged in coordination with the Programme Manager based in Delhi and might alternatively take place in Bhutan depending on availability and travel plans of the Programme Manager.

5.2 Finishing Date

The assignment will be finalised with the approval of the final report by end of October 2011 at the latest.

5.3 Schedule, reporting and number of days

TASK	Cat I
Document study	3
International travel	4
Briefing in Delhi	1
Working days in Bhutan	18
Debriefing in Delhi	1
Report finalisation for EU	6
Total 1	33

Adjustments to this schedule can be agreed between the company and the EU based on real needs.

6. EXPECTED OUTPUTS

The expert is expected to prepare an **inception report** outlining the initial findings and the methodology to be applied. It is to be submitted to the EU Delegation latest 4 calendar days after arrival in Bhutan.

An **Aide memoire** of a maximum of 10 pages will be presented to the Delegation in Delhi at the debriefing meeting at the end of the mission. The Aide memoire shall provide a first outline of the report to be submitted to the EU and cover a clear presentation of the main findings and observations regarding RNR Sector programme developments, updated status, validity of Performance Assessment Framework and PAF-indicator baseline data.

The **draft report** on the mission of a maximum of 50 pages (main text) plus annexes shall reflect the structure and content of the final report as per chapter 3.1 above and shall be submitted to the Delegation at the latest 10 calendar days following the debriefing. The EU Delegation will share the draft report with the concerned parties in the Government of Bhutan for comments. All supporting documentation (itinerary, list of people contacted, memos, list of documents consulted, details of other Development Partners' activities and resulting lessons learnt, relevant legislation, government structures, detailed location maps, etc.) should be enclosed as relevant as annexes to the report.

A **Final Report** will be submitted within 10 calendar days after receipt of consolidated comments from the Commission/RGoB on the draft report.

All reports will have to be submitted electronically to the Commission at Kristina.buende@eeas.europa.eu. In addition, 3 hard copies of the draft report and the 6 hard copies of the final report will be transmitted by express mail service to: The EU Delegation in New Delhi, to the attention of Ms. Kristina Buende.

All reports shall clearly indicate the number of the letter of contract.

7. AWARD CRITERIA

The assignment will be awarded to the most competitive offer (best value for money ratio) taking into account that the awarding criteria will be:

- Professional qualifications, 20 points

- General professional experiences, 30 points
- Specific professional experience, 30 points
- Personal experiences/qualifications such as cross-cultural sensitivity, interpersonal and negotiation skills, written and spoken English, 20 points

8. SELECTED REFERENCE DOCUMENTS (TO BE COMPLEMENTED)

- Bhutan 10th Five Year Plan
- RNR 10th Five Year Plan
- Country Strategy Paper 2007-2013
- RNR Sector Programme – Financing Agreement including PAF
- Results of the RNR 10th FYP Mid-Term Review
- Report of the RNR Sector Programme Formulation mission, February 2010

And others

Important remarks

During all contacts with the Bhutanese Authorities or any other Organisation, the Consultants will clearly identify themselves as independent consultants and not as official representatives of the European Commission. All documents and papers produced by the consultants, including the Aide-memoire, will clearly mention on its first page a disclaimer stating that these are the views of the Consultant and do not necessarily reflect those of the Commission.

Attention is drawn to the fact that the Commission reserves the right to have the reports redrafted by the Consultant, if deemed necessary and that financial penalties will be applied if deadlines indicated for the submission of reports (drafts and final) are not strictly adhered to.

The terms of Reference may be fine-tuned by the Commission at the briefing in Brussels and New Delhi in agreement with the consultant not affecting the agreed budget.

ATTACHMENT:

- Template for Indicator Fiche

INDICATOR TECHNICAL FICHE

1. Name of Indicator					
General Description					
Interpretation					
Statistical / mathematical Formula					
Level of aggregation					
Sources					
Contact Information of Responsible Government official to produce and publish the information					
Responsible Institution					
Statistical Data collection Methodology					
Coherence and consistency					
Frequency / timely / synchronisation / opportunity and update					
Baseline					
Evolution of indicator performance in next 5 years and possibly former years	year 1	year 2	year 3	Goal / target
Brief explanation of evolution and reasons and main premisses for behaviour and projections					
Explanation of Targets and main hypotesis and premisses together with risks					