



Institute of Forest and Wildlife Research and Development

Forestry Administration



Consultancy report

Study on the Policy and Legislative Framework for Forest Restoration



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Acronyms

ANR	Assisted Natural Regeneration
APFNet	Asia-Pacific Network for Sustainable Forest Management and Rehabilitation
CBOs	Community based Organizations
CBPF	Community-based Production Forestry
CCF	Conservation Community Forestry
CCCSP	Cambodia Climate Change Strategic Plan
CF	Community Forestry
CFi	Community Fishery
CFMP	Community Forest Management Plan
CPAs	Community Protected Areas
CMDG	Cambodia Millennium Development Goal
CPAMP	Community Protected Areas Management Plan
CFMC	Community Forestry Management Committee
CFMP	CF Management Plan
CPA	Community Protected Areas
ELC	Economic Land Concession
FA	Forestry Administration
FGD	Focus Group Discussion
GDANCP	General Department of Administration for Nature Conservation and Protection
HVT	High Value Timber
IRD	Institute of Forest and Wildlife Research and Development
MAFF	Ministry of Agriculture, Forestry and Fisheries
MLMUPC	Ministry of Land Management, Urban Planning and Construction
NBSAP	National Biodiversity Strategic Action Plan
NCPA	Nature Conservation and Protection Administration
NFP	National Forest Programme 2010-2029
NGO	Non-Government Organizations
NPA	National Protected Areas
NSEDP	National Socio-Economic Development Plan
NSDP	National Strategic Development Plan
NTFPs	Non-Timber Forest Products
PES	Payment for Environmental Service
PFE	Permanent Forest Estate
PRA	Participatory Resource Assessment
SWOT	Strength, Weakness, Opportunities and Threats
RGC	Royal Government Programme
WWF	World Wildlife Fund

Executive Summary

This report presented the recommendations to upscale restoration and tree planting. The technical analysis on the how to restore the forests were drawn partly from the APFNet experience in restoring the community forests in O Soam and Tbeng Lech CFs. The proposed approaches in upscaling restoration are as follows: (1) Formulation of a landscape level land use plan where areas for restoration will be identified; (2) Involve the communities in restoration. The community forestry is a very successful platform in restoring the forests; (3) Consider the use of multifunction trees and NTFPs in forest restoration; (4) Consider restoration that support the food security and economic needs of the communities; (5) Provide incentives on restoration and protection; and (6) Link the restoration activities to market and enterprises and sustainable financing.

The existence of enabling laws and policies were reviewed. These are also assessed for any gaps that need to be enhanced or can be used to support the recommended restoration approach. There were 7 laws that were reviewed, that include: (1) Forestry Law, (2) Law on Protected Areas, (3) Land Law, (4) Law on Commune and Sangkat, (5) Environmental Protection and Natural Resource Management Law of 1996, (6) Fisheries Law, and (7) Law on Land Management, Urban Planning and Construction. The sub-decrees that were reviewed include: (1) Sub-Decree on CF Management and Prakas on Guideline on CF; (2) Sub-Decree on Economic Land Concession. In addition, 10 Government Strategies and Programmes were reviewed: (1) Cambodia Rectangular Strategy; (2) Cambodian Millennium Development Goals; (3) Statement of the Royal Government on National Forest Sector Policy; (4) National Forest Programme; (5) National Strategic Development Plan 2014-2018; (6) National Green Growth Roadmap; (7) Cambodia Energy Sector Strategy; (8) Cambodia Climate Change Strategic Plan; (9) National Biodiversity Strategy and Action Plan; (10) National Adaptation Programme of Action to Climate Change. The review focused on the provisions that promote the proposed approaches on restoration or needs strengthening. The result of the review indicates several provisions of the laws and policies that support restoration approaches. But some provisions are insufficient to support upscaling of restoration.

The reviews indicated the existence of several laws that promotes involvement of communities on forest restoration. Degraded areas in the production forests are given priority for restoration. The community can apply to manage a given area through an Agreement with a 15-year term renewable for another 15 years. The entire duration is deemed very short considering that the indigenous species will take longer harvesting cycles. On the other hand, the need to make the community forests support food production through Agroforestry is mentioned only in the Prakas on CF Guideline. The laws promote tree planting activities and enjoin the citizens to support these activities. The areas where tree plantings will be conducted were also specified. The mechanism of identifying the areas for restoration and tree planting are mentioned in the laws and policies but needs strengthening. Some of the laws also provided incentives to the environmental services of the community forests.

The laws and policies reviewed may be sufficient that could support the restoration of the upland. But enforcement of the laws and policies may be done by issuance of Prakas (e.g. Prakas on the CPA Guideline and Community Fisheries, aiming others). Among the specific recommendations include:

1. Securing tenure for communities and community resource management planning. There are several forests that are not yet covered by CFs or CPAs. But some CFs and CPAs have not yet completed their formalization or Forest Management Plans. The CF and CPA Management Plans will determine the areas to be restored.

2. Completion of the CPA guidelines. The CPA guideline needs to be completed to effectively engage the communities in restoration.
3. Expand the trial of Forest Farming as Agroforestry Scheme for Community Forests. There is a need to trial agroforestry in different sites as well as different crops. Forest farming is also ideal in the community forests. The R&D for agroforestry needs to be promoted as part of the IRD Strategic Plan.
4. Procure some of the seedlings for tree planting activities from community forestry. Communities should be motivated to produce seedlings and be used for tree planting and restoration of public places. However, the seedlings produced by the communities should be purchased from the communities. Policy may be needed to allocate funds for the procurement of seedlings from the communities. Funds from REDD+ or Forest Development Funds can be potential funding sources.
5. Extend the 15-Year Term for CFs. The CFs is mostly located in degraded areas. The granting of CFs may not be enough and needs to be extended. The existing Prakas for CF Guideline and CPA law provides 15 year tenure to the CFs and CPAs, renewable for another 15 years. This duration may not be enough to allow the communities to recover their investments.
6. Adopt a landscape level planning for restoration. The landscape approach to restoration should be pursued. This will allow the different land use plans to be integrated and priority areas can be identified. The benefits of restoration can also be identified.
7. Incentives for environmental services of the community forests. Implementing rules and regulations need to be in place for the payments of the environmental services of the community forests. The incentives given to the communities based on the ecosystem services provided by the community forests will encourage more participation of the communities on restoration works.

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1.0 Introduction

The forest resources are important in Cambodia's development. It covers more than half of the nation's land area providing firewood, building materials and export earnings (Hang and Sloth, 2012). Supplementary plantings were carried out in natural forests in 1915 to 1972 at the rate of 300-400 ha per year to assist the replenishment of valuable tree species in logged over areas. Plantation establishment were carried out mainly using *Tectona* and other deciduous species. It is estimated that the total area planted at that time was about 5,470 hectares and additional 2,000 hectares of fast growing species (*Acacia*, *Eucalyptus*, and *Pinus*) were planted in 1985 to 1997. However, there are no records of survival and growth although anecdotal reports suggest that cutting and fire have destroyed many of them (Lamb, 2000). Recognizing the importance of the forests and the need of these for the communities, the government launched Community Forestry Programme in 2000 (IRD, 2014b) resulting to the protection of the few patches of forests (Source: APFNet Project Document). The program organized the community to manage their community forests. About 400,000 hectares of forestlands in Cambodia have been placed under the management of local communities living in or adjacent to the forests whose livelihoods depend on access to forest resources under the Community Forestry (CF) program. But many of these community forests are severely degraded. Except for protection, limited rehabilitation has been done and forests were left alone to regenerate and recover from its degraded state (Source: APFNet Project Document). The project "Multi-function forest restoration and management of degraded forest areas in Cambodia", was launched in December 2011 aimed at building capacity of local communities in restoring community forests in Siem Reap and Kampong Thom provinces for production of high value timber (HVT) and non-timber forest products (NTFPs) to support the livelihoods of local communities.

This report presented the policy needs that will further improve the restoration of the community forests. This report reviewed existing policies related to restoration and the gaps from the existing policies, recommendations were drawn to further strengthen the restoration particularly in the Community Forestry areas.

2.0 Approaches to Restoration

The experience of the APFNet has shown the potential of restoring the degraded lands. It also demonstrates the role of the community in restoring the forest lands. To make the rehabilitation sustainable, the following recommendations are recommended:

1. Formulation of a landscape level land use plan where areas for restoration will be identified.
2. Involve the communities in restoration. The community forestry is a very successful platform in restoring the forests.
3. Consider the use of multifunction trees and NTFPs in forest restoration
4. Consider restoration that support the food security and economic needs of the communities
5. Provide incentives on restoration and protection
6. Link the restoration activities to market and enterprises and sustainable financing

2.1 Formulation of a landscape level land use plan for restoration

Planning for restoration should be very specific on the ground where to target the ideal sites for restoration. There is a need to identify the areas needing immediate restoration to be

able to develop a more rational and realistic targets. Planning at the landscape level is needed to have a general view on the areas and in order to capture the other benefits of restoration. From the landscape level, the targeted sites for restoration will be identified. This means developing land use plans at the landscape level, and overlying to the plans of the province down to the communes.

Forest Landscape Restoration must be incorporated into national, regional and local land-use planning and action (Lamb and Gilmour, 2003). It is important that the positive externalities and co-benefits of the forests be considered in the planning. The NFP 2010-2029 suggested that the multifunction of the forest can better be approached at the landscape level than on the small scale approach (Source: NFP Section 4.2). At the landscape level, preferably, at the watershed level, the other services and function of the forest can better be appreciated. The landscape plan will provide an optimum objective of the different political units. The different key players like the communes and even the ELCs and business establishments. By identifying areas that are ideal for restoration, the targets can be effectively monitored. Most of the laws and policies prescribe the need to develop a land use plan that may guide in the rehabilitation works. After a land use plan is being formulated, the target of 60% forest cover can also be assessed whether it is realistic.

2.2 Involvement of Communities on Restoration

The government is generally limited funds to effectively cover the protection and restoration of the forests in Cambodia. Experiences show successes involving the communities in restoring the forests. The interest of the communities to participate in restoration is expected considering that they are depends on the forest for livelihoods. Several laws and policies give reference on the involvement of communities on restoration. There are some gaps however that need to be addressed.

2.3 Restoration Using High Value Timber (HVT), Multifunction Trees and NTFPs

In supporting the intermediate and long term needs of the community, the restoration programmes should consider the multifunction of the forests (IRD, 2014a) in order that the CFs can compete with other land uses. Commercial thinning should be conducted in the community forests to achieve economic and environmental benefits and in cultivated areas, integrated farming system should be introduced (Interview with Prak Marina, Kong Boravuth and Lim Sothy). The restoration should primarily aim at increasing the provisioning services of the community forest. Natural regeneration will be encouraged as much as possible including the use of indigenous species in plantations (Lamb, 2000).

The private lot owners are also not being tapped for the production of firewood. The study on woodlots showed that the private land owners get benefits from the planting of trees in their lands. It is recommended that the private lot owners will be targeted for the production of fuelwood in their private woodlots. The private land owners may be supported with seeding and provide with technical assistance on the development of their woodlots.

3.0 Sustainability of Forest Restoration

The sustainability of forest restoration depends on the participation of the communities. The restoration should be aligned towards support in the economic needs of the communities, particularly on food. To achieve this method, agroforestry will be introduced to the

communities, providing incentives to the communities who will restore the forests, and link the community enterprises to market chain for sustainable livelihoods.

3.1 Restoration supporting food security and economic needs of the communities

Agroforestry enables the land to provide food and agricultural products to communities in a way that is relatively sustainable. One of the variant of Agroforestry is Forest Farming. The method is established by thinning an existing woodland or plantation to create the appropriate conditions that favor the understory crop. High-value specialty crops or special forest products are cultivated or grown under the protection of a managed forest canopy. Forest farming provides added income while the canopy trees are growing and developing the timber crops (USDA, 1997). Forest farming is very suitable in the community forestry considering that the CFs have several NTFPs that are potential source of livelihoods to the communities. Among the NTFPs that can be grown underneath the canopy or partially shaded condition include wild fruits, rattans, mushrooms or honey.

3.2 Performance-based Incentives for Environmental Services of Community Forests and Benefit Sharing

The community may engage in the business of seedling production. In this case, the operation of the nursery should be supported initially until the nursery will become self-sustaining. The community may market the seedlings to the FA, NGOs, and private individual (Interview with Prak Marina, Kong Boravuth and Lim Sothy). Among the support needed by the community include development of their livelihoods and enterprises and logistics. Local communities can mobilize considerable human resources to protect forests if they feel adequately compensated in managing the forest. Such benefits also reduce the temptation to destroy forests (NFP 2010-2029). One way of compensating environmental services can be through marketing of sequestered carbon. Communities or the communes may be allocated with grants through special funds as an incentive of keeping the forests intact. Recently RGC encourages CFs to protect community forests for sale the forest carbon credit at carbon market for REDD (NFP 2010-2029). It is important that the community forestry should get alternative financing support. Thus, marketing the environmental services may be one of the considerations in planning the forest landscape.

One of the potential sources of sustainable financing the CFs is the carbon market. Decision No.699 provides a legal reference for carbon rights clarification. The CF guideline, however, only prescribes the measurements of standing timber. The current CF guideline does not consider estimation of carbon. In fact there is no inclusion of the carbon in the inventory and options for the CF Management Plans. More awareness raising on the prospects and limitations of carbon market must be pursued so that the community will be better informed in coming up with their decision.

3.3 Linkage of CF Enterprise to Market Chain and Affordable Financing

There are some members of the community that processed the rattan products. The development of CF is undermined by a severe lack of financial resources, as well as institutional and human resource capacity. Many CFs continue to depend heavily on the support of foreign donors and NGOs (NFP 2010-2029). The NFP 2010-2029 encourage income generating options through commercialization of forest products (marketable NTFPs, timber, charcoal, ecotourism and forest carbon credit). Forest products can be marketed raw or processed. While the NTFPs collected from the community forests provide livelihoods to

the communities, these are considered very limited. There is an apparent need to enhance the production of NTFPs and increase the value of the forest products (IRD, 2014b).

The community enterprises can be developed based on the environmental services and the material products that can be derived from the community forests. Value adding needs to be considered in planning. Carbon market and ecotourism can be explored by the community. There is a need to link the products and services of the CFs to market chain to generate maximum benefits and achieve economies of scale and small producers can compete the bigger manufacturer.

4.0 Relevant Laws and Policies

This section describes the different Laws, Policies and Strategy Plans that are relevant to the proposed approaches in restoration or tree planting.

4.1 Forestry Law (2002)

This law defines the framework for management, harvesting, use, development and conservation of the forests in the Kingdom of Cambodia. The objective of the law is to ensure the sustainable management of these forests for their social, economic and environmental benefits, including conservation of biological diversity and cultural heritage (Article 1). The law prescribes areas in the forestlands to be reforested. The Law also enjoins the citizens of Cambodia to plant trees and development of tree plantations. A “National Forestry Development Fund” is also mentioned that will ensure the implementation of the operational plans.

4.1.1 Relevant Provisions of Forestry Law on Land Use Planning

Among others, the Forestry Administration is mandated by the law to: (1) Assess boundaries, classify and demarcate forests in order to establish a land use map of the Permanent Forest Estates in coordination with the Ministry of Land Management Urban Planning and Construction, local authorities and communities and (2) Promote forestation on degraded forestland and idle forestland (Article 7). In Article 42, the Forestry Administration Cantonment, through consultation with parties concerned, has the duty to study conditions of the Permanent Forest Reserve in order to accurately demarcate and allocate suitable forest areas as Community Forest based on the capacity of forest resources and the needs to ensure customary user rights of local communities. The need to demarcate the permanent forest estate is specified in Articles 7 and 42. Article 45 provides that the Ministry of Agriculture, Forestry and Fisheries shall recognize the religious forest of local communities, living within or near the forest, as Protection Forest serving religious, cultural or conservation purposes. It is prohibited to harvest any spirit trees, thus they may be specially marked and shall be identified in a Community Forest Management Plan.

The formulation of the National Forest Programme 2010-2029 is already a demonstration of compliance of the law. However, the target for restoration is not reflected spatially. The accuracy of the target for restoration may be unrealistic based on the real situation in the ground because there are still no integrated land use plans in the country that will guide the rehabilitation and estimating the targets for reforestation or restoration. The demarcation of Permanent Forest Estates (PFE) is also on-going including the development of CLUPs. Except for a few, there is no landscape level plan that sets the target for restoration.

Following Article 45, Pagodas should be targeted for planting. In the above provisions, there is a need that the FA should identify sites for restoration. This can be integrated to the

Commune Land Use Plans, Land Use Plans of the ELCs, CFs and the development of the Master Plan for the provinces, Districts and towns.

4.1.2 Relevant Provisions of The Forestry Law on Community-based Restoration

A Community Forest shall be managed in an economic and sustainable manner by the local community conforming to the Community Forest Management Plan, rules on Community Forest and guidelines on Community Forestry. The Forestry Administration shall provide technical assistance, as requested by the local community, and monitor the implementation of the Community Forest Management Plan (Article 43). The Chief of the Forestry Administration Cantonment has the authority to approve and enter into a Community Forest Agreement with a community living within or near a forest area in the Permanent Forest Reserve for a period not to exceed 15 years. Such an agreement may be extended based on monitoring and evaluation report of the Forestry Administration Division (Article 42). The communities can produce seedlings to supply the seedling requirements for the tree planting celebrations. The seedlings that will be produced will be purchased from the communities through the national Forestry Development Fund (provided under Article 62) or from the REDD+.

4.1.3 Relevant Provisions of the Forestry Law on Agroforestry Modalities

The forestry law has no mention on the use of agroforestry. However, the Forestry Law provide for thinning activities in the forest plantations or the community forests. An agroforestry model called Forest Farming can be applied. Under the small canopy gaps, shade-tolerant species such as cacao, coffee, mushrooms, rattans, herbs among others can be planted in spaces. In heavily degraded or open areas, Taungya System or alley cropping can also be used as provided under the guidelines on CF.

4.1.4 Provisions of The Forestry Law on Performance-based Incentives for Environmental Services of Community Forests and Benefit Sharing

The Forestry Law has no provisions in incentives for environmental services for the community forests. The law is designed for regulatory function of the FA.

4.1.5 Provisions of the Forestry Law on CF Enterprise to Market Chain and Sustainable Financing

The Forestry law provides the setting up of Forest Development fund that will be used for Reforestation; Silviculture and forestry rehabilitation; Forest Protection and Conservation and bio-diversity; Forest and wildlife scientific and technical research; Extensions on Forest and Wildlife sector; Development in Forest and wildlife sector; Development of Community Forestry; and Training human resources for the Forest and Wildlife sector (Article 64). To encourage the participation of the communities, the fund may be used to support the Community Forestry in producing seedlings to be distributed during tree planting activities. In this manner, the communities will be motivated to maintain their nurseries and the community forests that may be sources of seeds for seedling production.

4.2 Law on Protected Areas (2008)

The objective of this law is to manage and effectively implement the conservation of biological resources and sustainably use the natural resources in the Protected Areas. It determines the responsibilities and participation of local communities, indigenous ethnic

minorities, and the general public. According to this law, the state recognizes and secures access to traditional uses, local customs, beliefs, and religions of local communities and indigenous ethnic minority groups residing within and adjacent to the protected areas. The MoE is the jurisdictional trustee authority over NPAs, with its General Department of Administration for Nature Conservation and Protection (GDANCP) serving as the secretariat for the management of these areas.

4.2.1 Relevant Provisions of CPA Law on Land Use Planning

Article 11 of the Law on CPAs categorized the protected areas as: 1. National Park, 2. Wildlife sanctuary, 3. Protected landscape, 4. Multiple use area, 5. Ramsar site, 6. Biosphere reserve, 7. Natural heritage site, 8. Marine park. Each protected area shall be divided into four (4) management zoning systems, as follows:

- **Core zone:** management area(s) of high conservation values containing threatened and critically endangered species, and fragile ecosystems. Access to the zone is prohibited except the Nature Conservation and Protection Administration's officials and researchers who, with prior permission from the Ministry of Environment, conduct nature and scientific studies for the purpose of preservation and protection of biological resources and natural environment with the exception of national security and defense sectors.
- **Conservation zone:** management area(s) of high conservation values containing natural resources, ecosystems, watershed areas, and natural landscape located adjacent to the core zone. Access to the zone is allowed only with prior consent of the Nature Conservation and Protection Administration at the area with the exception of national security and defense sectors. Small-scale community uses of non-timber forest products (NTFPs) to support local ethnic minorities' livelihood may be allowed under strict control, provided that they do not present serious adverse impacts on biodiversity within the zone.
- **Sustainable use zone:** management area(s) of high economic values for national economic development and management, and conservation of the protected area(s) itself thus contributing to the local community, and indigenous ethnic minorities' livelihood improvement. After consulting with relevant ministries and institutions, local authorities, and local communities in accordance with relevant laws and procedures, the Royal Government of Cambodia may permit development and investment activities in this zone in accordance with the request from the Ministry of Environment.
- **Community zone:** management area(s) for socio-economic development of the local communities and indigenous ethnic minorities and may contain existing residential lands, paddy field and field garden or Swidden (Chamkar).

Community Protected Area (CPA) can be established under a 15-years renewable agreement between the local communities and the Nature Conservation and Protection Administration (NCPA) of the MoE. However, the CPA guidelines regarding the procedures and process of establishing CPAs has not yet been approved. This needs to be determined by Prakas (regulation) of the MoE. The areas classified as sustainable zones can be ideal for targeting for restoration. The areas in the Community zone will also be targeted for agroforestry since these area areas where there is intensive cultivation. The areas in the national parks that are already zoned needs to be integrated to the overall landscape.

4.2.2 Relevant Provisions of CPA Law on Community-based Restoration

The law acknowledges the important role of communities on resource management. The protected areas are subdivided into zones where the sustainable use zones and the community zones are intended for community activities. However, the CPA Agreement is only for a period of 15 years.

4.2.3 Relevant Provisions of CPA Law on Agroforestry Modalities

The Protected Area Law recognized a multiple use area zone in the Protected Areas that can be used by the communities. In this zone, the communities can apply agroforestry methods or Forest Farming.

In forest farming, shade tolerant trees may be planted that can provide cash crops to the communities.

4.3 Land Law (1992)

The Land Law in Cambodia helps to identify the types of land that come under the direct control and ownership of the State (State Private and State Public Lands). Natural bodies of water and water courses are considered property of the State according to this legislative document.

4.3.1 Relevant Provisions of Land Law on Land Use Planning

The Land Law directs the Committee for Land Management, Urban Planning and Construction of Phnom Penh or the Sub-Committee for Land Management, Urban Planning and Construction of each province and municipality to draw up their own development master plans for the re-organization and development of their respective city, province and municipality (Article 5 and 6). Land use master plan shall clearly indicate the area to be allocated for national defense, agriculture, commerce, industry, handicraft, culture, tourism, religion, and administrative buildings and public facilities (Article 7). From these provisions the area set aside for tourism and public facilities can be allocated for the targeting for restoration or tree planting.

4.4 Law of Commune and Sangkat

The law on Commune and Sangkat mandates the communes to protect the resources in their communes (Article 41) that includes the environment and natural resources (Article 43). Under this provision, the FA should include in its policy strategies of involving the Communes in the developments. The Partnership Forestry recommended by the NFP should be considered in engaging the Communes in restoring the forests.

4.4.1 Relevant Provisions Law of Commune and Sangkat on Land Use Planning

The law on Commune and Sangkat mandates the communes to protect the resources in their communes (Article 41) that includes the environment, natural resources (Article 43). Article 60 mandated the Commune Councils to prepare approve and implement a commune development plans consistent with the national economic and social development plan (Article 61). The Communes should be involved by the FA and MoE in identifying sites for restoration pursuant to Article 43

4.5 Environmental Protection and Natural Resource Management Law 1996

This law establishes the basic provision for environmental protection and preservation of natural resources in Cambodia, including important provisions on the requirement for environmental impact assessments. The law calls for the development of a National Environmental Plan. The law has multiple aims that include assessment of environmental impacts of proposed projects to “ensure the rational and sustainable preservation, development, management and the use of the natural resources” and to promote public participation on environmental protection and natural resource management. It provides for the development of national and regional environmental plans (Chapter II), encouragement of public participation (Chapter VII), sustainable natural resource management (Chapter IV) including “forests and forest sub-products” (Article 8), and an ‘Environment Endowment Fund’ applicable to environmental protection projects (Article 19).

4.6 Fisheries Law (2006)

The Fisheries Law (2006) grants the Fisheries Administration (FiA) of the MAFF the power to manage and regulate flooded forest and mangrove areas outside of the Protected Areas (PA). The Fishery Administration should be an important agency that must be involved in the landscape planning. The flooded forests could therefore be a good target for restoration managed under the FiA.

4.6.1 Relevant Provisions of Fishery Law on Community Participation on Restoration

The Fishery Law allows Cambodian citizens to form Community Fisheries to take part on the sustainable management, conservation and development and use of Fishery resources (Article 59). At present, several Community Fisheries are established in where the communities are involved in the management and planting of the flooded forests.

4.7 Law on Land Management, Urban Planning and Constructions

The objective of the Law on Land Management, Urban Planning and Constructions is to promote the organization and embellishment of the urban and the rural areas throughout the Kingdom of Cambodia with the purpose of assuring development of the country. This is in consideration of the welfare of the society and aimed at protecting the patrimony, environment and protecting natural resources of Cambodia. The MLMUPC is mandated to develop a Master Plan in each special region to protect the patrimony and the Environment, and to assure the economic development of any particular region.

4.8 Sub-Decree on Community Forestry Management (2003) and Prakas on Guideline on CF

The Sub-Decree on Community Forestry Management (2003) aims to empower local communities to manage and use forest resources to preserve their culture and traditions as well as to improve their livelihoods. The objectives of this Sub-Decree are to strengthen the implementation of the Forestry Law and other legislations related to forest resources management by local community including the manner of implementing the community forestry. The sub-decree prescribes the manner of entering a CF Agreement between the community and the FA. This include setting the term limit of the Agreement which is a period of 15 years renewable for another 15 years. It is noted that the priority sites for CF are those degraded forests. The limited duration and the site criteria can be disincentives to the

communities. Considering the degraded condition of the forests allotted to the communities (Section 27 and 31) and longer period for indigenous trees to reach harvestable age, the community may not be able to recoup their investments. There is a need to extend the duration of the CF Agreement to allow the community to recoup their investments. Furthermore, following the prescription of the NFP, areas to be covered by CFs should not be limited to degraded sites only but should include areas with good standing timber (under Community based Production Forestry) and in the Protected Forests (under Community Conservation Forestry). Interested communes should likewise be involved in the development of the forests under the Partnership Forestry. The community forestry can also be tapped to supply the seedling requirements needed by the FA.

4.8.1 Relevant Provisions of Sub-Decree on Community Forestry Management (2003) on Land Use Planning

The CF provides that the community forestry will be for a period of 15 years and may be extended for another 15 years. Under Article 2, the Community forestry can only be established within the production forests of the permanent forest reserve. The local community and Forestry Administration can initiate or propose to establish Community Forestry with the following objectives: (1) To manage, use, protect, conserve and develop Community Forest in a sustainable way; (2) To use forest and NTFPs in a customary way, for the livelihood, tradition and religious belief; (3) To extract forest and non-forest products in accordance with the potential and availability of community forest resources; and (4) To support the policy of the Royal Government in poverty reduction. Since the priority for development will be indigenous or native species, it may take time before the community can harvest the trees. By assigning the degraded sites for CF development will make the community forests unprofitable. A period of 30 years may not be enough to recover their investments. Comparatively, the law on Economic Land Concessions is tolerant on the duration of the Agreement of ELCs that usually plant short gestation crops.

In the field there are also communities living in the Protected Forests. Under the NFP, a modality called Conservation Community Forestry (CCF) may be allowed in conservation areas, presumably outside the core zones (if zoning has been done). The NFP identifies the Community Based Production Forestry (CBPF) as one modality where the community will manage commercial scale forestry. The primary objective is to manage the timber for commercial harvesting. There is also an issue on targeting areas in the Permanent Forest Reserve as site for CF. To date, most of the forested areas in Cambodia has not been demarcated. Thus the FAC could hardly decide whether to approve the application of the community.

It is recommended that the Sub-Decree on CF management should be amended not to limit to the degraded site or within the production forests only. The NFP recommends CF (in the form of CCF) in the Protected Forests. The priority sites for rehabilitation must also be given priority for rehabilitation. The following recommendations are needed:

- The provision specifying that CFs will prioritize the degraded areas should be amended. It shows bias against the communities and depriving them from co-managing the areas with good timber stand.
- Mapping on the areas intended for rehabilitation for forest estate must be conducted.
- Demarcation of the Permanent Forest Boundary will be expedited. But first, there should be a landscape level planning.
- Develop a landscape level land use planning to identify priority sites for restoration by the communities.

Unlike the CPAs, the zoning of the Protected Forests (managed under the FA). The degraded areas or under threat of encroachment should be target for CCF as recommended by NFP.

4.8.2 Relevant Provisions of Sub-Decree on Community Forestry Management (2003) on Community-based Restoration

The CF guideline on Community Forestry allows the community to manage their community forests. The community is required to develop their CF Management Plans. The CF Management Plan includes the silvicultural treatments and developments to the introduced in the blocks.

There are many CFs that are not yet recognized by the Ministry of Agriculture, Forestry and Fisheries (MAFF) and has not started formulating their CF Management Plan (IRD, 2014b). Some CFs has submitted their draft CF Management Plan to the FA, but it is still awaiting approval. These situations make the community forests very vulnerable to land encroachment that may constrain forest restoration. Legally, the community cannot go into commercial utilization of the community forests without a CF Management Plan. Both the completion of the CF formalization and development of CF Management Plan are highly technical, thus, the Community Forestry needs assistance in their formulation of the CF Management Plans (IRD, 2014a). The community needs to be assisted in the formulation and approval of their CF Management Plans in order to speed up in the development of forest-based enterprises.

Although the community based management of the forest provided a convincing evidence of successfully protecting the forests, there are still limited accomplishments in terms of establishing more community forestry in the country. The CFs or CPAs must be supported to cover wider area. The approval of the CF Management Plan is still slow. The review process needs to be expedited. This also requires developing the skills of the FA at the Cantonment level to review the CFMP submitted by the community.

4.8.3 Provisions of Sub-Decree on Community Forestry Management (2003) on Restoration Using High Value Timber, Multifunction Trees and NTFPs

The Sub-Decree on CF Management requires that the local communities may use in their forests species that are ideal for short-term production to meet customary uses such as firewood, poles, posts, seedlings, small size construction timber, important non-timber forest products (solid and liquid resin, bamboo, rattan, variety of vines etc.) and other supplementary non-timber forest products where the community forest has the potential to supply and meet the needs of community on a sustainable manner. The Guideline prescribes (1) Restoring the original indigenous or naturally growing forest; and (2) The establishment of Forest Plantation Block within the community forest is needed in increasing and developing the community forest resources to meet the immediate and future needs of young timber, and small and medium-size construction timbers. Fast growing species such as Acacia, Eucalyptus, Cassia siamea (Angkagn), Peltophorium ferrugineum (Trar Sek) etc. should use where final products can be harvested within 5-10 years. Moreover, after 3 years silvicultural treatments, such as thinning, Community Forestry would be able to harvest supplementary timber and saplings for their immediate needs. The local community can also plant average growing species, which are construction-type timber and have a harvesting cycle of 50 years, like *Tectona grandis* (Mai Sak), *Swietenia macrophylla* (Krab Bek), or mix with original forest species after the first thinning. Such silviculture practice will enable the

community to have supply of timber that will meet their needs for construction timber in short and long terms. The Community Forestry can also select fast growing nitrogen fixing and symbiotic leguminous species such as *Leucaena* (Kanthum Thet), *Sesbania grandiflora* (Anker Dey) and *Acacia* species etc. These species will supply the soil with nitrogen and nutrients needed for agricultural crops.

It is noted that the Sub-Decree recommends the planting of species (like *Tectona Grandis* and *Swietenia macrophylla*) that have longer rotation (50 years). Considering that the prescribed tenure for CF Agreement is only 30 years (initially 15 years renewable for another 15 years), the communities are not assured that they can harvest these species. Most likely, they will go for shorter rotation and fast growing species (e.g. *Acacia* and *Leucaena*). The degraded conditions of the community forests also become a main constraint in the restoration under the longer rotation. It should be noted that the recommended longer rotation species are mostly exotic. There are also indigenous premium species that may suitable. These include *Pterocarpus macrocarpus* and other species of the Fabaceae Family that can be used for restoring the CFs. These species should also be considered in the restoration since these are leguminous and could restore the soils. *Dipterocarpus* species and *Pinus merkusii* can also be used as restoration species where the communities can tap resins. Other NTFPs such as rattan and bamboos and vines that provide fruits can also be used in restoring suitable areas. The species that have multipurpose use need to be explored. For example, there should be a research on the flowering trees that support population of wild honey bees.

4.8.4 Provisions of Sub-Decree on Community Forestry Management (2003) on Agroforestry Modalities

The successful restoration of the forest depends on the participation of the communities. It has been proven that Community Forestry has been very successful in the restoration of degraded forests. The Sub-Decree on Community Forestry Management encouraged adopting the Agroforestry to promote the planting of planting of multi-purpose trees or fast growing and nitrogen fixing plants on farms within the community forest boundaries. The CF guideline encourages the use of Taungya method where the community can plant agricultural crops in between the tree crops during the first to third year after planting. The community can also plant multi-purpose trees on farms within the community forest boundaries. Trees can be planted in between agricultural crops or plant trees as shelters or fodder etc. Promoting agroforestry methods in the community forestry is not easy considering that the concept is still new to the country particularly among the community members. There is a need to put up several pilot sites to test the method.

4.9 Sub-Decree on Economic Land Concession

The sub-decree determines the criteria, procedures, mechanisms and institutional arrangements for initiating and granting new economic land concessions, for monitoring the performance of all economic land concession contracts and for reviewing economic land concessions (Article 1). The law provides that Economic Land Concessions may be granted to develop the land for intensive agricultural and industrial-agricultural activities based on the land use plan for the area but should be within the framework of natural resource management based on appropriate ecological system (Article 3). Article 4, Article 5 and 14 emphasizes the need for the economic land concessions to conform to Land Use Plans adopted by the Provincial-Municipal State Land Management Committees and in consideration to the perpetual environmental protection and natural resources. Following the provisions of the Sub-Decree, the Technical Secretariat on Economic Land Concessions

should ensure that the ELCs should include in their development plans provision for restoration of the critical areas such as the riparian areas and the areas with steep slopes.

4.9.1 Provisions of Sub-Decree on Economic Land Concession on Land Use Planning

The Economic Land Concessions are required to conform to the Land use plan for the land has been adopted by the Provincial-Municipal State Land Management Committee. However, although the ELCs are required to submit a land use plan in their proposal they are not required in their plan to restore the areas especially on critical areas along the riparian areas or areas in steep slopes. The ELCs must be required to come up with the restoration plan which should be provided to the Commune for integration to the CLUP.

4.9.2 Provisions of Sub-Decree on Economic Land Concession on Community-based Restoration

At present, there are cases of Economic Land Concessions that has been suspended due to their inability to develop the land. In these areas, nobody is protecting the forest. There is a need to clarify the status of the concessions or cancel these concessions with finality. Once finally cancelled, the community can then manage the area.

4.9.3 Provisions of Sub-Decree on Economic Land Concession on Restoration Using High Value Timber, Multifunction Trees and NTFPs

The law on economic land concessions provides a broad statement on the conservation of the riparian areas and environmentally critical areas. The ELCs should be enjoined to protect the areas along the rivers and streams and head waters by planting with indigenous species.

4.9.4 Provisions of Sub-Decree on Economic Land Concession on Agroforestry Modalities

The Economic land concessions are required to develop their land in an appropriate and perpetual manner. In areas that are susceptible to erosion, the ELCs need to adopt soil conservation measures, which is an indispensable part of agroforestry methods. Contour plowing need to be adopted and the riparian need to be restored to keep the wildlife present in the areas. Boundary plantings may also be required.

4.10 The Cambodia Rectangular Strategy (RS)

The Rectangular Strategy (RS)-Phase II (2008-2013), is a national socio-economic development policy agenda that aims to ensure sustainable forest management, protect biodiversity and promote community forestry programs in the country.

4.11 The Cambodian Millennium Development Goals (CMDGs)

The CMDG reflects RGC's commitment to increase total forest cover to 60% of land area (from the current 57%). One approach is by combating deforestation and forestland conversion.

4.12 Statement of the Royal Government on National Forest Sector Policy

The national Forest Sector Policy sets Cambodia's objectives of conserving and managing the forest on a sustainable manner. It also reiterates its position of state's ownership on the remaining forest resources of the country and putting this into sustainable use. This policy enjoins Cambodian citizens at the private sector to conserve the forest with the aim of ensuring food security, reducing poverty and contribute towards socio-economic development. In doing this, the government adopts the bottom-to-top policy by fostering multi-stakeholder consultation. It also provides statement of targeting arable lands for forestation and reemphasizes the development of forest resources.

4.13 National Forest Programme (2010-2029)

The National Forest Programme (NFP) 2010-2029 aims to achieve sustainable forest management and alleviate poverty in Cambodia. Specifically, it identifies objectives and goals in developing and managing forests to improve livelihoods, environmental services and overall economic development. More importantly, it aims to ensure that the management and exploitation of forests generates benefits for government entities, local communities, the private sector and individuals. The NFP has also identified REDD+ as an important source of sustainable forest financing. The NFP prioritizes six programmatic areas that will be emphasized over the next two decades in order to achieve several objectives: (1) forest demarcation; (2) classification and registration; (3) forest conservation and development of forest resource and biodiversity; (4) forest law enforcement and governance programme; (5) capacity and research development; (6) sustainable forest financing¹⁶; and (7) Community Forestry (CF).

The NFP aims to increase the current level of forest cover to 60% of the total land area as its strategic indicators. It also sets a target of 500,000 hectares of high value commercial plantation established and 10 million tree seedlings distributed per year and two million hectares of forest land allocated for Community Forestry (approximately 1,000 CF). It envisions that the forest sector will be fully self-financed. To implement RGC's priority policies for the Fifth Legislature, the Forestry Administration (FA) has prepared an action plan to implement the National Forest Program effectively. Its nine strategic priorities are: (1) Maximize sustainable forest contribution to poverty alleviation, enhanced livelihoods, and equitable economic growth; (2) Continue formalizing titles to the indigenous peoples and permit them access to NTFP; (3) Adapt to climate change and mitigate its effects on forest-based livelihoods; (4) Develop land use planning that allows for holistic planning across sectors, jurisdictions and local government borders (Land Use Policy and Spatial Planning); (5) Achieve good forest governance and enforcement at all levels; (6) Raise awareness, capacity of institutions and quality of education, to enable sustainable implementation of the National Forest Program; (7) Ensure environmental protection and conservation of forest resources; (8) Apply sustainable management models adapted to different forestry contexts; and (9) Develop sustainable financing systems. The NFP also targets the establishment of 25,000 hectares of forest a year. Achieving the target will be a gargantuan task. This will put a lot of burden to the FA and other agencies such as the MoE to protect the existing and established forests.

4.13.1 Relevant Provisions of National Forest Programme (2010-2029) on Land Use Planning

The NFP recommended the landscape approach in forest planning. At the landscape level, the degraded forest areas are designated for forest rehabilitation, through enrichment

planting and silvicultural tending. This is done with representation from provinces, districts and communes, as well as other concerned ministries.

The NFP also recognized the need for recreation and eco-tourism development that focus on the management of the forest resources. In urban areas, the open spaces are targeted for tree planting. Forest planting will not only be limited in the uplands or rural areas but should include open spaces in the urban areas for recreation purposes. The NFP identified the need to integrate recreational urban forest into long-term urban planning to ensure that growing cities maintain green, open spaces. These areas need to be included in the land use planning and targeted for forest planting or rehabilitation.

4.13.2 Relevant Provisions of National Forest Programme (2010-2029) on Community-based Restoration

The NFP (2010-2029) noted some conflicting land uses (forest concessions, Economic Land Concessions, plantations, agriculture, mining, etc.) that needs to be solved. Three other variations are being piloted, in recognition that a broadening of the existing legal framework would enable CF to be implemented in a wider variety of situations as follows:

1. Forests classified as Protected Forest: Community Conservation Forestry (CCF);
2. Where Commune Councils wish to be more directly involved: Partnership Forestry (PF); and
3. Where large forest areas have greater commercial potential: Community-based Production Forestry (CPF).

In order to achieve the target, the FA should endeavor to expand the CFs and the CPAs by the MoE. The CF is proven to be a very successful model of managing the forests. By merely protecting the areas, the community forests started to recover. Funding support may be channeled to the CFs for seedlings production and tree planting. Annual tree plantings (Arbor Day), as provided in the Forestry Law, must include the CF areas. In this manner, the protection of the trees will be assured. The FA at the sub-national level should be trained to assist the CFs.

Expanding the piloting of the three CF modalities needs to be done to be able to cover wider areas and variety of situations.

4.13.3 Provisions of National Forest Programme (2010-2029) on Restoration Using High Value Timber, Multifunction Trees and NTFPs

The NFP (2010-2029) prescribes the development of multipurpose tree plantations that have potential to supply domestic timber needs, increase incomes of local communities, and improve the environment through watershed protection and erosion control (Source: NFP 2010-2029, Sub-Programme 6 (NFP 2010-2029).The emphasis on the utilization and potential benefits of native species is also reflected on the expected results of the NFP (Under Sub-Programme 2) which are as follows:

1. Commercialization of native tree species through “conservation by use” principles and increased planting of and rehabilitation by native species
2. Populations of rare or valuable tree species effectively conserved in a network of conservation stands
3. Increased availability of high quality planting material for forest rehabilitation and afforestation activities
4. Mechanisms for benefit sharing from management and seed sale with communities

5. Appropriate tree species adaptable to climatic conditions identified
6. Climate adapted planting material available
7. Awareness of the relations between and species, provenances and climate
8. Awareness of the economic and ecological attributes of the native species promoted
9. Better genetic planting material in use
10. Priority tree species were tested in laboratory and information on germination percentage and storage conditions were available.

The FA will establish multi-purpose tree plantations in all appropriate areas in partnership with local communities, national and international NGOs and other interested stakeholders. The FA will:

1. Continue ongoing efforts to improve the enabling environment and national policy for multi-purpose plantation development through ongoing reforms to demarcate forest boundaries and secure local people's rights to plant, harvest and market forest products and services
2. Identify suitable tree species and tending principles for multi-purpose tree plantations
3. Develop modern – scientific nurseries to ensure a stable supply of locally suitable quality seedlings for multi-purpose tree plantation activities
4. Identify multi-purpose tree plantation sites to be supported by national management plans, and integrate and support multi-purpose tree plantations within decentralized forest management plans
5. Field demonstrations of multi-purpose tree plantation sites established in cantonments and local communities
6. Develop extension service and conduct awareness campaigns to support local plantation activities in relation to legal and technical issues
7. Develop cooperation on plantation establishment between communities, private sector and the Forestry Administration, through the development of “model agreements” on management and benefit sharing. Such modality is justified in the Sub-decree on “Granting user rights to cultivate tree plantations within state forest lands”
8. Experiment with the effects of growing trees in farmer's field as means of crop diversification and increased outcome
9. Establish 50,000 ha of forest plantations annually in order to increase forest resource.

The expected results in the use of the multipurpose species are as follows:

1. An enabling environment for local investments in multi-purpose tree plantations is established through ongoing reforms to secure local people's rights to benefit from all aspects of plantation activities
2. Rural people's involvement in multi-purpose plantations increases steadily, and as a result local incomes and livelihoods in participating communities are improved
3. Watershed protection and reduced soil erosion in participating areas
4. Improved sustainable supply of timber and poles through production of wood products at local and national levels
5. Increase forest cover to 60% as stipulated in the Millennium Development Goal.

The NFP also recognize the role of Community Forestry in balancing multiple benefits from forestry, including biodiversity and environmental conservation, as well as productive benefits like construction timber, fuel wood, NTFP for direct use or sale by local communities participating in forest management.

While it is recognized that the promotion of multipurpose and mostly indigenous species are encouraged, these may not further motivate the communities in adopting the recommended species due to its longer harvesting cycles.

There is a need to motivate the communities to raise more seedlings. One of the motivations of the communities could be the purchase of seedlings by the FA from the communities on the native seedlings for planting during the Arbor Day. The fund for the purchase of seedlings can be taken from the Forest Development that is set aside as provided in the Forestry Law. In this manner, the communities will be encouraged to produce native seedlings since there will be a market of the seedlings they will produce.

4.13.4 Provisions of National Forest Programme (2010-2029) on Agroforestry Modalities

The NFP do not provide for the agroforestry methods in restoration of the forests. However, the NFP encourages the use of multipurpose trees for livelihood improvement. The support for Agroforestry, particularly the Forest Farming Technology, Silvopasture and other Agroforestry models needs to be promoted. Research on using these technologies needs to be supported.

4.13.5 Provisions of National Forest Programme (2010-2029) on Performance-based Incentives for Environmental Services of Community Forests and Benefit Sharing

The NFP made mention on the environmental services provided by the forests. There is a general mention on the role of the community forests in the generation of environmental services but compensation is silent on the other services that the CF can provide such as the protection of the watersheds for hydropower, irrigation and the protection of fish habitats from being silted. To encourage restoration and replanting, there is a need that the environmental benefits from the community forests should be accounted in order that they will be able to generate funding for the production of seedling and to restore their forests. Improved fiscal systems will ensure that the full value of forest resources is appreciated and captured; access to innovative payment mechanisms promoted; and incentives for investment and financing of the sector.

4.13.6 Provisions of National Forest Programme (2010-2029) on Linkage of CF Enterprise to Market Chain and Affordable Financing

Forests provide a number of less traditional sources for potential income generation. They make up the foundation for nature-based tourism, a growing industry worldwide. The forests produce environmental services, like erosion protection, clean water, etc. Well-established markets exist for Non Timber Forest Products. In the case of Cambodia, and especially in CF, the processing of NTFP and medicinal plants could add considerable value to the forest outcomes. Local communities can mobilize considerable human resources to protect forests if they feel adequately compensated by the benefits from forest management. Such benefits also reduce the temptation to destroy forests.

The NFP identified the following sources of sustainable financing for forest development:

1. Conservation concessions
2. Licensing out collection rights
3. Sale of carbon storage based on Reduced Impact Logging

4. Payment for Environmental Services: Many attempts have been made, although a major breakthrough has still to be accomplished. Besides carbon storage, unique habitats and clean water are the most likely services under this type of scheme
5. Entrance fees: Easy to establish and collect, but a minimum infrastructure is needed in terms of food, lodging, marked footpaths, maps and information materials
6. Non-Timber Forest Products: In FA forests, collection rights could be sold (not calculated). No investment is necessary and it is easy to implement
7. REDD: Inventory of carbon stock is including biomass of forest above land and in the soil (dead wood and leaves, and other organs). Standing volume in unlogged evergreen forests was calculated as 243 m³/ha (only commercial part), but much has been heavily degraded since that time. It is assumed that the FA's 3 million ha of protected forest (Column B, Table 4) is mainly unlogged evergreen forest, and in all cases, if no logging takes place they will, within the next 20 year period, develop into mature evergreen forests with a standing volume of approximately 240 m³/ha; 2-3 years are needed to have an avoided deforestation project recognized internationally and placed on the market. The price per ton includes payment for development costs, as in the previous calculations regarding carbon storage/sinks in degraded forests.
8. Hunting: Examples exist around the world, especially trophy hunting under strict control, which offers good income, and has minimal impact if conducted properly, but it is a very emotional issue (income potential is not calculated). Little investment is needed in this case.

Sub-Programme 2 (Community, Institutional and Livelihoods Development) supports community, institutional and livelihoods development to optimize diversified benefits (products and services) to communities from sustainable forest management, to contribute to local livelihood development and poverty reduction. Community and institutional development covers the development and management of CF institutions, within the local context, that support equitable livelihood development. Livelihood development will prioritize sustainable domestic consumption (livestock, food, timber, energy, medicines and NTFPs that support rural livelihoods). Income generating options through commercialization of forest products will also be encouraged (marketable NTFPs, timber, charcoal, ecotourism and forest carbon credit). Forest products can be marketed raw or processed for added value. The development of livelihoods of the community needs to be pursued to ensure sustainability of the restoration of the community. The CFs should also get benefit from REDD+ to be able to fund its restoration activities.

4.14 National Strategic Development Plan (NSDP) 2014-2018

The NSDP outlines the importance of conserving Cambodia's unique natural heritage and biodiversity, along with enhancing environmental sustainability, sustainable economic growth, poverty reduction, and improvements on the lives of rural communities. The National Strategic Development Plan (NSDP) (2009-2013) serves as the 'roadmap' for implementing the RS-Phase II and it aims to support the sustainable use of all natural resources in the country. The NSDP recognize the need to give highest attention to manage the environment and natural resources to minimize impacts of climate change. The NSDP 2014-2018 also emphasizes the need for Cambodia to "balance between development and conservation", and recognize the need for: (1) green cover, forest and wildlife conservation; (2) sustainability manage the fisheries resources; and (3) ensure the sustainability of the ecosystem, so that the quality of land and sustainability of water sources could be improved by focusing on the protection of biodiversity, wetlands and coastal areas. Among others, the NSDP sets target to (1) clearly determining the ownership of natural resources; (2) developing an appropriate incentive scheme for the conservation of natural resources and

empowering the sub-national government, communities and individuals to participate in their conservation; and (3) stepping up cooperation with concerned stakeholders under the framework of green growth and climate change. The NSDP sets a national target of 60% forest cover with an annual area to be reforested of 25,000 hectares from 2014 to 2018.

4.14.1 Relevant Provisions of National Strategic Development Plan (NSDP) 2014-2018 on Land Use Planning

Considerable achievements have been made in the development of the land use plans by various agencies. The MLMUPC has made several land management plans as follows:

- ❑ Regional planning: The Ministry has prepared a national strategy for coastal zones integration for the four provinces, namely Kep, Kampot, Preah Sihanouk, and Koh Kong.
- ❑ Municipal and provincial planning: Land use master-plans have been established for Phnom Penh, Preah Sihanouk, Kampot, Battambang, and Kep.
- ❑ Town, District, Khan planning:
 - Has prepared 10 master-plans and town land use plans and four urban land use plans. Master plans and town land use plans are being conducted for Kep Town and Preah Sihanouk town.
 - Has prepared land use master-plans for 17 districts, 1 khan and 3 towns
 - Master plans and land use plans are being established for Taveng district, Andong Meas district, and Oyadao district in Rattanak Kiri Province. The Master Plans that are developed by the MLMUPC should be provided to the relevant agencies to serve as a basis in the targeting for restoration and boundary demarcation.
 - Commune Level Plans: _ Land use plans in 120 communes in 11 provinces have been prepared. Land use maps have been produced for 1,633 communes/sangkats. The Commune Land Use Plans are very useful tool that can help in identifying sites that are priority for restoration.

NSDP also reported that MOE has created a green buffer zone to prevent encroachment on the protected areas through developing agro-industry projects and ecotourism projects. Another green buffer zone has been created through setting up protected area communities, a strategy in which forestlands within the protected areas are given to the local communities and ethnic groups for sustainable management and (local) consumption for non-timber forest products.

The FA and the MoE should align their targeting for developments to the completed Master Plans of the MLMUPC for forest developments and restoration works. At present there is very limited sharing of information among the Key Players on the priority areas for developments.

4.14.2 Relevant Provisions of National Strategic Development Plan (NSDP) 2014-2018 on Community-based Restoration

The NSDP emphasizes conservation of the forest resources with the involvement of the communities and at the same time looking at the livelihoods of the forest-dependent communities. This policy also calls for the reduction of deforestation and degradation of forests, intensified tree planting and forest rehabilitation, strengthening the conservation of wildlife and wildlife sanctuaries, development of institutional and human capacity, and promotion of research studies and their dissemination.

The NSDP reflects the commitment of MOE to draw maps for the 21 protected areas and erected 1,204 border posts, and set up 581 posts for the protected area communities. It also identified 115 protected-area communities, covering 211 villages having a land area of 158,994 ha. The FA targets the establishment of 2 community forestry per year from 2014-2018. Aside from setting targets for establishing CFs, there is a need to consider the approval of the CFMPs and CPAMPs. The approved CFMP will be more meaningful indicators since these reflect the actual areas that the community will restore or set aside for forest purposes.

4.14.3 Relevant Provisions of National Strategic Development Plan (NSDP) 2014-2018 on Performance-based Incentives for Environmental Services of Community Forests and Benefit Sharing

Among the priorities of RGC will be on Stepping up cooperation with relevant development stakeholders under the framework of the “National Policy on Green Development” and the “National Strategic Plan on Green Development 2013-2030” through the development of regulatory frameworks and mechanisms for carbon trading, strengthening the capability, preparation and implementation of climate change adaptation measures, assessment of the scope of the use of environmental financing mechanisms including payment for environmental services and environmental fund, strengthening the management of protected natural areas including protection of biodiversity, rain forests, and wetland areas; and environment and ecosystem monitoring and control mechanism at both national and sub-national levels.

The policy reflects payment for environmental services as one of the priorities of the government of Cambodia. This is again mostly applied to carbon credits and ecotourism. At present there is no progress on REDD+ and CDM. The environmental services from protecting the watersheds are not clear. The PES for the watersheds can help in ensuring the sustainable restoration of the uplands.

The NSDP also reflects tourism, considered third major source of economy to Cambodia. Rehabilitation of the forest areas that have potential for ecotourism is not mentioned in the priority activities. While rehabilitation is under the mandate of the FA and MoE, the identification for rehabilitation priorities must be conveyed to the two agencies by the Ministry of Tourism.

4.14.4 Provisions of National Strategic Development Plan (NSDP) 2014-2018 on Linkage of CF Enterprise to Market Chain and Affordable Financing

There should be an allocation for the target of reforestation from the Community Forests. There is already mention of the CF under the Rectangular Strategy and the NFP. However, there is no mention how the community can be compensated in order to restore their degraded landscape.

The existing facilities such as the nurseries that were established by the communities can be used to be the source of seedlings under contractual agreement. The community may be commissioned to do the restoration in some areas that are delineated as permanent forests by the government.

4.15 The National Green Growth Roadmap

Cambodia's Green Growth Roadmap aims to achieve economic growth in Cambodia in an efficient way with less resources and waste; to be clean, without polluting the environment; and to be green, with preserving greenery, waterways and the natural heritages. The RGC wants to develop its society in a sustainable way so that its future generations can enjoy both economic growth and a good living environment. Objective 2 of the Green Growth Roadmap of Cambodia can promote restoration in the country thru incentive-based payments. The Green Growth aims to "develop a scheme for innovative investments that can carry on through-out medium and long terms and consist of: (a) Payment for Ecosystem Services; (b) Green Tax and Budget Reform; and (c) Swap of debts schemes with international investors".

It also enjoins the ministries and departments replant any lost vegetation along roads and maintain forest cover to ensure the stability of ecosystems and for the prevention of soil erosion.

4.15.1 Relevant Provisions of Green Growth Road Map on Land Use Planning

The Green Growth Road mentions the parks and landfills to be targeted for tree planting. In tree planting, these areas should be considered in the land use planning in the Master Plan and the Commune Land Use Plans.

4.15.2 Provisions of Green Growth on Restoration Using High Value Timber, Multifunction Trees and NTFPs

The development strategies aim to maintained and encourage access to clean water; build the physical infrastructures; develop environmentally sound landfill sites; promote public transport and promote tree planting together with the upgrading and expansion of parks and other recreation facilities. The rights of ways and open spaces are also targeted for planting.

Indigenous trees or shade trees should be promoted in the areas specified and target under Green Growth Road Map Strategy. However, the Green Growth Roadmap does not mention support for production of seedlings as well as for the maintenance of the trees that will be planted along the road rights of ways and in open spaces. These functions should be given to the Communes. There should be a regular monitoring of the planted trees as well as providing incentives to fund the maintenance of the planted trees. Incentive based mechanisms may be explored that will be given to the communities who maintain their forest cover and planted trees/parks.

4.16 Cambodia Energy Sector Strategy

MIME has a target for reducing dependence on wood for cooking. However, both MIME and the MAFF have no target for developing the fuelwood supply in the country to support the fuelwood requirements of communities that are dependent on fuelwood for cooking.

4.16.1 Relevant Provisions of Cambodia Energy Sector Strategy (Draft) on Land Use Planning

The Strategy identified the tree planting along the road sides and other public places to contribute in addressing fuel wood deficit in the agricultural areas. The Strategy recommends (1) organizing tree planting in schools, pagodas and villages, to increase awareness to the people. (2) planting of fast growing fuelwood species that adapts to Cambodia's environment as an important component of wood energy strategy; establishment of Village Woodlot for the production of fuelwoods that can become an important source of income for villages.

The planning for tree planting should also cover the road rights of way, Pagodas and some public places. Planting in these areas will enhance the esthetic conduction and provide shades. The branches may also supplemental wood requirements. The commune can include in their Commune Land Use Plans development of village woodlots. In case there are existing Community Forestry, the village can set aside part of the community forest for fuelwood production. Community activities such as tree planting may be conducted in these areas.

4.16.2 Relevant Provisions of Cambodia Energy Sector Strategy on Community-based Restoration

The Energy Sector Strategy mentioned in passing the targeting of biomass (fuelwoods) as a strategy for ensuring energy sufficiency in the country. However, there is no mention of enjoining the communities to develop their community forests for the production of fuelwoods. There is limited mention on contracting the CFs for the supply of fuelwoods. If the CFs can be assured of the good market of fuelwood at a reasonable price, the CFs will be motivated to develop their areas for fuelwood production.

4.16.3 Relevant Provisions of Cambodia Energy Sector Strategy on Restoration Using High Value Timber, Multifunction Trees and NTFPs

The Strategy encourages the establishment of fuelwoods all over the country to promote energy self-sufficiency. However, the establishment of fuelwoods may not be feasible compared to the low value of charcoals and fuelwoods illegally coming from the natural forests. The communities are also not linked to the market chain of fuelwoods. Thus, the communities could not bargain for better price of the fuelwoods they produce.

To make the fuelwood plantations competitive, the FA should clamp down charcoals coming from illegitimate sources. The communities who produced fuelwood from their community forests or from their private lots should be assisted in the marketing. They should be protected from the arbitrary illegal fees collected by the police along the way when they transport their legitimate forest product.

4.16.4 Provisions of Cambodia Energy Sector Strategy on Agroforestry Modalities

The Cambodia Energy sector Strategy made little mention on tapping the farms of farmers for the production of fuelwood. By promoting agroforestry models in the farmers can increase the fuelwoods in the countryside and at the same time increase the resilience of the farmers to climate change.

4.17 Cambodia Climate Change Strategic Plan (CCCSP) 2014 – 2023

This Strategic Plan provides a policy of mitigating the impacts of climate change and securing people's support in the mitigation activities. CCCSP also aims to make the critical ecosystems like the (Tonle Sap Lake, Mekong River, coastal ecosystems, highlands, etc.), biodiversity, protected areas and cultural heritage sites more resilient to climate change. Besides protection of water and forest resources, the Royal Government is promoting tree planting, rehabilitation of degraded forests and investment in production of biofuels.

4.17.1 Relevant Provisions of Cambodia Climate Change Strategic Plan 2014 – 2023 on Community-based Restoration

Strategic Objective 1 (Promote climate resilience through improving food, water and energy security) identified the watersheds as one of the areas that need to be developed to increase resilience and improving food, water and energy security in the country. MoE is mandated to (1) strengthen biodiversity conservation and rehabilitation of ecosystems affected by climate change; (2) Encourage and promote community-based solutions, ecosystem-based solutions and ecotourism as effective ways to respond to climate change; and (3) Promote Payment for Ecosystem Services (PES), including REDD+. The CCCSP however only broadly mentions the engagement of the communities and PES. There is no concrete mention of engaging the community in restoring the uplands and means of compensating their efforts of restoring the forests. Except for REDD+ and ecotourism, PES is still not taking off in Cambodia. The mechanism by which the upland communities will be able to get benefits from hydropower dams, irrigations and fisheries needs to be developed to encourage participation of the communities on restoration.

The Strategic Objective 3 of CCCSP identified the community-based approaches as cost-effective ways of addressing climate change. It also recognizes the importance of community participation in developing the land use plans.

4.17.2 Provisions of Cambodia Climate Change Strategic Plan 2014 – 2023 on Restoration Using High Value Timber, Multifunction Trees and NTFPs

The CCCSP have little provisions on the use of multipurpose trees in critical areas that prevent soil erosion. Species with sprawling roots and big buttresses should be encouraged in the watersheds to control erosion. Evergreen trees or bamboos may be used especially along the streambanks to prevent siltation of the riverbeds and the reservoirs. There should be greater involvement of the communities in the restoration and maintenance of the catchments of the critical watersheds. This also means providing compensation to the community members.

4.17.3 Provisions of Cambodia Climate Change Strategic Plan 2014 – 2023 on Performance-based Incentives for Environmental Services of Community Forests and Benefit Sharing

The Plan reflects the need for community participation in combating climate change and in planning. The PES should therefore include the services of the landscapes and should accrue to the communities. Considering that PES is still new, a specific guideline on how

the communities can benefit from the environmental services of the forests should be developed. In its strategic objectives, it aims to promote payment for ecosystem services including REDD+ as a sustainable approach of managing the critical ecosystems.

4.18 National Biodiversity Strategy and Action Plan (NBSAP) 2002

The NBSAP provides a framework for action at all levels that will enhance ability to ensure the productivity, diversity and integrity of natural systems resulting to the ability of Cambodia to reduce poverty and improve the quality of life of all Cambodians. It promotes the conservation of biodiversity and the sustainable use of biological resources, and describes how Cambodia can contribute to international efforts to implement the Convention on Biodiversity. This plan elaborates the Convention on Biodiversity. It aims to ensure that the benefits of sustainable biological resource use contribute to poverty reduction and the improved quality of life for all Cambodians. The National Strategy and Action Plan propose 17 themes aimed at protecting the natural resources, land use planning, community participation and poverty reduction.

4.18.1 Relevant Provisions of National Biodiversity Strategy and Action on Land Use Planning

The NBSAP promote reforestation and rehabilitation of degraded forest areas in all provinces (area reforested). The NBSAP requires zoning of the sustainable uses of the protected areas for tourism and recreation. The NBSAP aims to develop a national and provincial land use master plans that take full account of environmental considerations in the socio-economic planning process and identification of alternatives and priorities (Theme 11). The areas that can be targeted for restoration will be the following:

1. National botanical gardens and buffer zones of the protected areas (Theme 1). The natural botanical gardens can serve as in-situ and ex-situ conservation site.
2. Mining area (Theme 8)
3. Natural and cultural sites (Theme 9)
4. River banks, lake shores and riparian areas (Theme 12)
5. All degraded sites (Theme 5)

The communes and concerned agencies (FA, MoE, MIME and MoT) should indicate in their land use plans areas that are ideal for conservation like the botanical areas, biodiversity rich areas, mining areas, natural and cultural sites, river banks or riparian areas and degraded sites. These sites will be reflected in the map for forest development (e.g. restoration, rehabilitation or reforestation).

4.18.2 Relevant Provisions of National Biodiversity Strategy and Action on Community-based Restoration

The NBSAP also recognize the role of the community in the protection and biodiversity conservation. Under Theme 1 (Protection of Natural Resources), the NBSAP identified the local communities in ex situ conservation. The conservation of forest and wildlife resources under Theme 5 also considers the Community-based forestry management program of MAFF & MOE). To involve the community, NBSAP (under Theme 14) aims to:

- Develop community-based natural resource management programs for forestry, fisheries, land use, protected areas, endangered species protection, ex situ conservation, wildlife management, and agriculture
- Develop community based land use and rural development programs

The Community-based natural resource management programs are aimed at improving the quality of life and reducing poverty of the forest –dependent communities (Theme 17). In the CF or CPAs, biodiversity-rich areas may be set aside for wildlife conservation.

4.18.3 Provisions of National Biodiversity Strategy and Action on Restoration Using High Value Timber, Multifunction Trees and NTFP

NBSAP provides the planting of native species for reforestation (Theme 1- Protection of Natural Resources). Theme 5 also provides that a policy and guidelines promoting the use of native species in cultivation and restricting the introduction of introduced species should be developed. Many state-run nurseries are managed by the FA where indigenous species are raised. To further increase the production of seedlings of native species, the nurseries that are operated by the communities such as in O Soam and in Tbeng Lech should also be considered as source of planting materials for tree planting in public areas. Seedling for tree planting may be purchased from the communities.

4.18.4 Provisions of National Biodiversity Strategy and Action on Performance-based Incentives for Environmental Services of Community Forests and Benefit Sharing

The NBSAP identified some areas where the communities can get incentives for the environmental services. Among these are:

1. Income from the services offered to visitors and fines from protected areas
2. Incentives for local participation in ex situ conservation practices.

The NBSAP encourage the development of a system that leads to the development of National Financial Mechanism (Trust fund development; national sustainable financing mechanism assessment). The way by which the communities in the uplands can access the payments from environmental services should be formulated.

4.19 National Adaptation Programme of Action to Climate Change (NAPA), October 2006, Ministry of Environment

The goal of the Cambodian NAPA is to provide a framework to guide the coordination and implementation of adaptation initiatives through a participatory approach, and to build synergies with other relevant environmental and development programmes. It presents priority activities to address the urgent and immediate needs and concerns of the grassroots people for adaptation to the adverse effects of climate change in key sectors such as agriculture, water resources, coastal zone, and human health.

5.0 Conclusion

The review indicates that there are several laws and policies that can support the restoration initiatives of Cambodia. It is important to note that the government recognizes the importance of the forest ecosystem in addressing poverty and in mitigating vulnerability of

the country from climate change. There also existing policies are supportive of the recommended approaches of restoring the forests: (1) formulation of a landscape level land use plan where areas for restoration will be identified; (2) involving the communities in restoration; (3) considering the use of multifunction trees and NTFPs in forest restoration; (4) considering restoration that support the food security and economic needs of the communities; (5) providing incentives on restoration and protection; and (6) linking the restoration activities to market and enterprises and sustainable financing. However, some of the laws and policies have onerous provisions that need some amendments like the limited tenure of the community forests. The other laws and policies already provide a sound basis of forest restoration. What needs to be emphasized is on the implementation. This includes the adoption of land use plans, which are being mentioned by several laws, community involvement, linking restoration to food security, and more recently, providing incentives to payments of environmental services (PES) schemes as a means of providing sustainable financing to restoration. PES needs more guidelines since the concept is relatively new to Cambodia and experience is still very limited.

6.0 Policy Recommendations that Promote Forest Restoration

Severn recommendations are drawn to enhance the existing polices or support the strategic approach of restoring the forests.

1. **Securing tenure for communities and community resource management planning.** There is a need to secure the tenure of community members. This can be done by completing the CF or CPA formalization process of the communities, completing the CF Management Plan and the strengthening the community based enterprises. In some areas that are not covered by the CFs, the local authorities may apply for Partnership Forestry. The aim is to close open spaces and prevent further encroachment through social fencing. There is also a need to resolve the status of the suspended ELCs. As much as possible if there are communities who are interested in these areas these must be covered by the CFs.
2. **Expand the Trial of Forest Farming as Agroforestry Scheme for Community Forests.** The community forests offer potential for the production of specialty products through Forest Farming. These include the honey and wild fruits, ornamentals, spices and herbs. If the community will integrate silvopasture (using goats, native chicken or even pigs) inside the forest can also be raised ad marketed as organic products. The market of organic meats is becoming popular and may get a premium price if these are certified. The mushrooms provided a modest economic contribution to the community members. The community forests provide NTFPs but there are silvicultural treatments that are not properly carried out to produce these products.
3. **Procure some of the seedling requirements for tree planting activities from the community forestry.** The communities will be encouraged to manage their organization if there is a regular stream of income. On of this will be the sale of seedlings that they will produce.
4. **Extend the 15-Year Term for CFs.** Community forests are forests owned by the state that have been allocated to communities under a 15-year agreement (Yeang and Brewster, 2012). But the development of the CF within 15 years may not be sufficient for many CFs due to the degraded condition of their forests. If the community will start rehabilitating their forests, it might take time before it will recover. The growth rate of many indigenous species is also relatively slow. There is a need therefore to extend the term of the CFs instead of 15 years. Longer term of CFs will

motivate the communities in developing and investing on rehabilitation of the degraded forests and they can be assured to get benefits from their investments.

5. **Adopt a landscape-level planning for restoration.** Development of a landscape level land use planning to determine the areas for restoration and tree planting. This should include the following areas:
 - Environmental critical areas (steep slopes, riparian areas) in the ELCs and the mining areas
 - Pagodas
 - Parks
 - Road right of ways
 - Landfill sites

The land use plans should be integrated in the Master Plan of the different provinces, Districts and CLUPs. The land use plans should consider the zoning plans of protected areas.

6. **Completion of the CPA guidelines.** The community needs to legitimize their commercial activities in the PAs based on sustainable management of the forest resources. The CPA guideline will be a useful guide that will ensure that the forest resources in the protected areas will not be overexploited.
7. **Incentives for the environmental services of the community forests.** Incentives for the communities should be considered on the environmental services provided by the forest. Linking incentives to the performance of the resource managers (e.g. the condition of the forests) will drive interests of communities to improve the condition of the forests.

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