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Community Forestry Adaptation Roadmap to 2020 for Lao PDR

Community forestry adaptation roadmap
to 2020 for Lao PDR

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All photos courtesy of RECOFTC

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Introduction

During the course of the twenty-first century, Asia and the Pacific's forest-dependent communities will bear the brunt of climate change impacts – specifically, the 2.2 billion people living in the region's rural areas, and the 450 million people in the Asia-Pacific region who rely on forest resources to some degree. Forestry and climate change policies, laws, projects, financing and capacity building efforts must address these people's interests through climate change adaptation.

Community forestry supports local level climate change adaptation by enhancing resilience in multiple ways: supporting livelihoods and income, increasing food security, leveraging social capital and knowledge, reducing disaster risks and regulating microclimates. However, adaptation planning has, by and large, not included community forestry as a viable climate change adaptation tool. To address this, RECOFTC – The Center for People and Forests has developed a set of roadmaps to help guide the meaningful inclusion of community forestry in climate change adaptation planning through the year 2020.

To develop the roadmaps, RECOFTC – The Center for People and Forests conducted a desk-based literature review on the link between community forestry and climate change adaptation in the region, and in the selected countries. Based on the review, a ten-question interview template was drafted to gather primary data from experts, defined as practitioners, policy-makers and researchers with experience in community forestry and/or adaptation in the included countries. The information provided by these interviews informed the analysis and recommendation of these reports.

Key messages and recommendations

Community-based forest management in Lao PDR lacks strong legal standing. However, the legal revision process currently underway promises increased rights for communities over local forest areas. As forest laws are being reformed, various community forest-based adaptation projects have been implemented, including projects from Mekong Asia-Pacific Community-Based Adaptation, and Norwegian Church Aid. In addition, the ForInfo project has piloted market-based forest adaptive management technologies to benefit smallholder farmers. While Lao PDR's National Adaptation Program of Action to Climate Change (NAPA) has proposed projects to support village forestry, funding has yet to come through for implementing these proposals.

Nevertheless, as a Least Developed Country (LDC), Lao PDR is eligible for a relatively high degree of international funding support for climate change mitigation programmes in the forest sector, with co-benefits for climate adaptation. This presents a good opportunity to bring together the synergies that exist between the objectives of these funding programmes, using community forestry as a tool to support both climate change mitigation and adaptation. Achieving this synergy effectively depends on the manner in which existing policies and plans are implemented and the direction taken by key programmes such as the Land and Forest Allocation Program.

The most immediate and pressing actions to maximize the role of community forestry in meeting national climate adaptation goals are the following:

- **Policies and planning** – Mainstream climate change science and adaptation plans in policies related to the Forest Strategy to the Year 2020, as the Strategy currently fails to recognize climate change impacts. In addition, there is a need to follow up, secure funding, and implement the proposed forestry sector projects under the NAPA, namely the proposal to 'strengthen capacity of village forestry volunteers in forest planting, caring and management techniques as well as the use of village forests.'

- **Legal reform** – Further implementation of the Land and Forest Allocation Program must ensure the recognition of customary land tenure arrangements. Participatory processes should be further implemented to allow communities to determine the allocation of and boundaries between agricultural and forestland, a process that will help them prepare for climate change.

- **Project development** – Lao PDR's Community Based Forest Management (CBFM) models should incorporate community forestry-based adaptation activities through Village Forest Associations. With relevant pilot projects just beginning in 2012 and 2013, there is a need to share lessons learned and identify best practices for scaling up.

- **Public funding and private investment** – Further specify and document adaption co-benefits within large-scale climate mitigation funding schemes such as the Forest Investment Program (FIP) in Lao PDR in order to ensure that mitigation activities support resilient livelihoods.

- **Capacity development** – Village forestry volunteers, as referenced in the National Adaptation Program of Action for Climate Change (NAPA), should be trained in how to conduct vulnerability assessments and adaptation planning (similar to the "local resource person" model by FECOFUN in Nepal).

Acronyms

CBFM	Community-Based Forest Management
FIP	Forest Investment Program
GDP	Gross Domestic Product
Hectares	ha
Lao PDR	Lao People's Democratic Republic
MAP CBA	Mekong Asia-Pacific-Community-Based Adaptation
MHP	(Maeying Huamjai Phattana, also known as Women Mobilizing for Development)
MoNRE	Ministry of Natural Resources and Environment
NAPA	National Adaptation Program of Action to Climate Change
NCA	Norwegian Church Aid
NGOs	Non-governmental Organizations
NTFPs	Non-timber of Forest Products
PSFM	Participatory Sustainable Forest Management
RECOFTC	Regional Community Forestry Training Center for Asia and the Pacific (also known as The Center for People and Forests)
REDD+	(Reduced Emissions from Deforestation and Degradation +)
SNV–	Netherlands Development Organization

Overview and key statistics

Key statistics	
Total population	6,645,827[1]
Total land area (ha)	23,080,000
Total forested area (ha)	15,751,000
Forest under community management (ha)	8,210,803[2]
Forest-dependent population	5,270,800[3]
Rate of deforestation (ha/year)	78,000 (2005 -2010 average); 78,000 (2000-2005 average); 78,000 (1990-2000 average)[4]
Global Adaptation Institute (GAIN) Index[5]	Overall Ranking: 142 out of 179 countries (1 is best) Overall Score: 48.4 (100 is best) *Worse than expected given GDP/capita*[6] Vulnerability: 0.473 (0 is best) *More vulnerable than expected given GDP/capita* Readiness: 0.440 (1 is best) *Less ready than expected given GDP/capita*
Climate Risk Index[7]	Lao PDR is the 135th country in the world most impacted by extreme weather events between 1991 and 2010.
Major expected climate change impacts	• Increased impacts from extreme tropical weather events. • Shorter monsoon season and longer dry season with the following impacts: ▪ Decrease in availability of freshwater ▪ Decreased productivity of rain fed agriculture ▪ Irregular flow of Mekong River ▪ More frequent and severe flooding
Level of national adaptation planning and preparedness (H/M/L)	Low
Reference to forestry in national adaptation planning (H/M/L)	High (Forestry identified as a high priority area in National Adaptation Programme of Action for Climate Change)
Adaptation practices of relevance to community forestry	Livelihood enhancement and diversification (being a landlocked country, the people of Lao PDR are highly dependent on forests for food, fuel, medicines, tools, housing materials, and income); monitoring for forest health including pest and forest fire control; landslide and erosion prevention; provision of food and water during drought or crop failure.

1. The World Bank, (2012). World Bank Indicators. Available online: data.worldbank.org/indicator (last accessed July 19 2012).
2. RECOFTC, ASEAN Social Forestry Network (ASFN) and SDC. (2010). The Role of Social Forestry in Climate Change Mitigation and Adaptation. Available online: http://www.recoftc.org/site/uploads/content/pdf/ASFN%20v10%20-web%20version%20(compressed)_139.pdf (last accessed Oct 16, 2013).
3. Chao, S. (2012). Forest Peoples: Numbers across the world. Forest Peoples Programme. Available online: http://www.forestpeoples.org/sites/fpp/files/publication/2012/05/forest-peoples-numbers-across-world-final_0.pdf (last accessed Oct 21, 2013).
4. FAO, (2010). Global Forest Resources Assessment 2010.
5. Global Adaptation Institute Index (GAIN), (2011). Laos. Available online: http://index.gain.org. (last accessed February 28, 2013).
6. There is a strong correlation between a country's GDP per capita and its overall and readiness scores, and an inverse correlation with vulnerability. To account for this relationship, each of the overall, vulnerability and readiness scores have corresponding "GDP Adjusted" scores as well.
7. Harmeling, S (2012). Briefing Paper: Global Climate Risk Index 2012. Available online: http://germanwatch.org/klima/cri.htm (last accessed June 26, 2012).

Community forestry in Lao PDR

Forests are of vital importance to local livelihoods in Lao PDR, where around 80% of the national population depends on forests to some degree.[8] Local people across the country extract many non-timber forest products (NTFPs) from their local forests, including an estimated700 different species of plants, insects and fungi for food, construction, medicine, and other uses.[9] It is estimated that wild foods contribute between 61-79% of non-rice food consumption by weight, providing an average of 4% of energy intake, 40% of calcium and vitamins A and C, and 25% of iron.[10] NTFPs also provide a key buffer for seasonal and emergency food shortages.

However land concessions pose a serious threat to Lao forests, and to local people rights to forest resources. Approximately 2-3 million ha of land were held by concessions as of 2009, which accounts for 10-15% of the whole national territory. Out of 1,126 total land concession agreements, 398 were granted to foreign investors, with areas ranging from 8,000 to 50,000 ha per concession.[11]

Augmenting the external pressure on Lao forests are internal factors such as population increase, high poverty levels, ambiguous land tenure arrangements, and low institutional capacity.[12] These internal and external pressures have contributed to dramatic deforestation and degradation of the national forest estate. Lao PDR lost around 12.5% of its forests over the ten-year period from 1992 and 2002, with forest cover decreasing from 11.2 million ha to 9.8 million ha, with an average loss of 134,000 ha per annum. Strong land rights over local forests are critical to ensuring livelihood resilience for rural communities in the face of great changes across the country.

Emergence of community based forest management (CBFM)

The concept of CBFM was first introduced to Lao PDR in 1989 at the First National Forestry Conference and was developed further in the Tropical Forestry Action Plan as well as the Land Use Planning and Land Allocation Policy of the 1990s. These were the first formal steps to encourage participation of local people in the planning and management of forests.

CBFM has since become a key aspect of the nation's rural development strategy, with the belief that local people securing management and user rights over their local forests will facilitate long-term poverty reduction alongside environmental conservation. The National Growth and Poverty Eradication Strategy (2004) mentions CBFM as a high priority in its operational framework.[13] The National Forest Strategy to the Year 2020 goes further, highlighting the need to enhance 'village-based natural resource management for poverty eradication' as its second key policy direction.[14] Achieving this goal, according to the Strategy, requires the establishment of 'a clear legal framework covering village land and forest resources that enables effective community based natural resource management including participatory land-use planning at village level reflecting actual land and forest use.'[15]

8. Chao, S. (2012). Forest Peoples: Numbers across the world. Forest Peoples Programme. Available online: http://www.forestpeoples.org/sites/fpp/files/publication/2012/05/forest-peoples-numbers-across-world-final_0.pdf (last accessed Oct 21, 2013).
9. RECOFTC and NAFRI, (2007). Status of Community Based Forest Management in Lao PDR.
10. Lao People's Democratic Republic (Lao PDR) (2012). National Biodiversity Strategy to 2020 and Action Plan to 2010.
11. Rights-LINK, (2012). Lao PDR Data. Available online: http://rightslinklao.org/eng/index.php?option=com_content&view=article&id=89&Itemid=54 (last accessed December 20, 2012).
12. Senyavong, V, (2010). Resilience to Climate Change in Upland Lao PDR. Workshop: Indigenous Women, Climate Change and Reducing Emissions from Deforestation and Degradation (REDD+), Mandaluyong City, Philippines, 18-19th November 2010.
13. Lao PDR, (2004). National Growth and Poverty Eradication Strategy.
14. Lao PDR, (2005). Forestry Strategy to the Year 2020 of the Lao PDR.
15. Ibid

Models of CBFM in Lao PDR

While a number of CBFM projects have been started across the country, the Government has not adopted a binding legal framework to support CBFM. In Lao PDR, CBFM can be broken down into four main categories:[16]

1. participatory forest management
2. collaborative forest management
3. traditional forest management; and
4. smallholder plantations

Participatory forest management, which includes the 'Village Forest' model, is characterized by a high degree of community member participation in all levels of forest management, planning and benefit sharing. Participatory forest management was first tested in Lao PDR in two state production forests under the Forest Management and Conservation Project from 1995-2001, jointly run by the Lao Government, the World Bank, and the Finnish International Development Agency (FINNIDA). Under this model, villagers organized themselves into Village Forest Associations, with approval from the Provincial Agricultural and Forestry Office to manage production forests. Under this model, Village Forest Associations carry out resource assessments, management planning, implementation, monitoring, and evaluation, and receive a small percentage of revenues from forest production. Villagers are responsible for all management decisions, while government or government staff serve as facilitators. This model has progressed under various development projects; however, it has not yet proven to be sustainable without external intervention. Very few detailed forest management plans exist at the village level in Lao PDR, as villagers tend to agree only on general management rules.

Collaborative forest management systems involve a lower degree of local participation. Under this model, the state prepares forest management plans and organizes village forest management unit activities that local people then carry out. Benefit-sharing mechanisms and collaborative management frameworks vary from project to project. While local involvement in some aspects of forest management is encouraged, it has been observed that this model may not give sufficient incentives for sustainable management.

Traditional management systems include historical and customary village forest management systems. The State legally recognizes customary user rights of villagers within their village boundary, and village authorities have the right to enact local rules catering to traditional use. Land use planning and land allocation may involve a participatory process to codify traditional village areas such as village sacred forests, village-use forests, village cemeteries, village protection forests and village conservation forests. However, as the customary use of forests traditionally lies within the family there are few opportunities for collaborative planning, management or benefit sharing mechanisms for the community as a whole. Traditional management systems rarely have formal management plans even after land allocation activities take place. Therefore, these forests are vulnerable to further degradation due to population pressure, migration, conversion to agriculture, weak institutional capacity of village organizations, and increasing commercial value of forest resources.

Smallholder plantations may be acquired by individuals, groups or villages after submitting an application to the Government. Several institutions from the village to the central level are mandated to provide technical support to interested parties. The average plot size is 1.8 ha, with many ranging from a few hundred square meters to five ha, depending on human and financial resources, and land availability. Commercial species like eucalyptus, *para* rubber and agarwood are either planted in monoculture plots, or through agroforestry, in home garden or line planting systems along with other valuable species, such as paper mulberry, rattan, and bamboo.

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16. RECOFTC, ASFN, and SDC, 2010). *The Role of Social Forestry in Climate Change Mitigation and Adaptation.* Available online: http://www.recoftc.org/site/uploads/content/pdf/ASFN%20v10%20-web%20version%20(compressed)_139.pdf (last accessed Oct 16, 2013).

The road ahead for CBFM

The different CBFM models implemented to date have demonstrated their potential to benefit local livelihoods and enhance rural development.[17] They have educated local people on the value and function of local forests, and have built local capacity in line with national decentralization policies.[18]

The successes and failures among these models offer key lessons for moving forward, with a number of common challenges having been identified across them. Project success is often contingent on forest health. Villages with degraded forest and without access to roads and markets may not receive equitable distribution of benefits. Other challenges include overlapping resource tenure, ability to apply models across diverse areas, and continued reliance on external technical and financial resources for support.[19] In addition, even after a village receives formal recognition of village use forests, they generally lack village forest management plans, and often use local forests regardless of classification or legal terms of use.[20]

The CBFM framework must be consolidated and strengthened to ensure its long-term sustainability. The current Forest Law does not formally safeguard management rights, nor does it provide explicit incentives for local people to manage forests sustainably.[21] In addition, organizational, enforcement, and monitoring capacity is still too weak to ensure coordination and expansion of the CBFM programme. The process for disseminating information to stakeholders is quite slow, and it takes considerable time for local government officials and forest users to learn that relevant laws and regulations have been reformed or repealed.[22] In addition, efforts to expand CBFM in Lao PDR are largely centralized in the hands of government officials and international NGOs. The strength of Lao civil society to communicate the voice of local people in these discussions is still relatively weak.

The government is undergoing a formal process of large-scale land reform, with an emphasis on enhancing the effectiveness of land policy implementation, and to enhance capacity for local land management. The Ministry of Natural Resources and Environment (MoNRE) is working closely with the Lao PDR National Assembly to develop the new Land Use Policy. In 2012, Dr. Souvanhpheng Boupphanouvong, President of the Committee on Economy, Planning and Finance of the National Assembly of Lao PDR, stated at a joint Rights and Resources Initiative and RECOFTC international workshop in Vientiane:

For over a year, Lao has been undergoing a process of reviewing and revising various policies and legislation pertaining to land and natural resources…By ensuring local peoples' rights to the land they live and work on, we'll be able to secure equitable distribution of benefits.[23]

The passage of these reforms is critical to support local control over forest areas, which will in turn make them more resilient in the face of climate change.

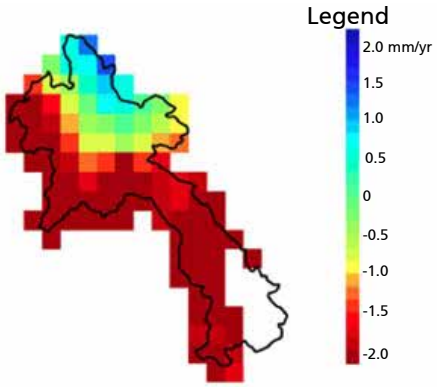
17. RECOFTC and NAFRI, (2007). Status of Community Based Forest Management in Lao PDR.
18. Ibid
19. Fujita, Y et al. (2005). Dong Phou Xoy and Dong Sithouane Production Forests: Paving The Way For Village Forestry. In: Durst, P.B. et al (ed) (2005). In Search of Excellence: Exemplary forest management in Asia and the Pacific. FAO and RECOFTC.
20. Lao PDR, (2005). Forestry Strategy to the Year 2020 of the Lao PDR.
21. RECOFTC and NAFRI, (2007). Status of Community Based Forest Management in Lao PDR.
22. Ibid
23. Rights and Resources Initiative, (2012) *Press Release: Laotian Government Presses Ahead with Land Policy; Signals Commitment to Strengthening Policy Implementation and Securing Rights of Local Communities.*

Expected climate change impacts in Lao PDR

According to the Global Adaptation Institute's Index of 2013, Lao PDR is the 42nd country in the world most vulnerable to the impacts of climate change and the 36th country least ready to adapt.[24] The country is already getting hotter, and has noticed a slight delay in the rainy season. Figure 1 below shows that over the last 50 years, annual rainfall in Lao PDR has declined 3.209 mm/year, with a total decline of 160mm. During this same period, the mean temperature has raised 0.85C, with an average of 0.017C per year. Studies for the region have predicted a mean temperature increase between 0.1 and 0.3 C per decade, a longer annual dry season and a greater magnitude and frequency of extreme weather events like typhoons, floods and droughts. However, climate change-induced rainfall pattern shifts are unlikely to be noticeable for some time.

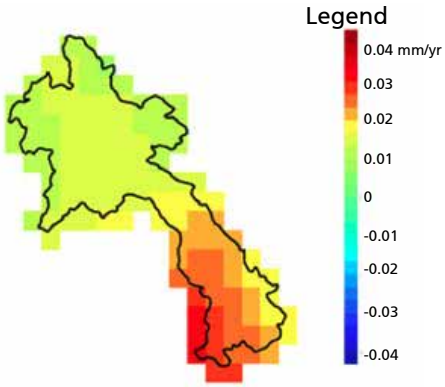
Figure 1: Changes in annual mean rainfall and temperature 1951-2001[25]

Preciptitation 1951-2001



Change Annual Mean Rainfall 1951-2001

Mean Temperature 1951-2001



Change Annual Mean Rainfall 1951-2001

Source: for this and following maps and graph – Climate Wizard – http://climatewizard.org/

The Mekong River water level reached record highs in 2008, flooding much of the country. Two years later in 2010, the Mekong reached record lows, leaving farmers without sufficient irrigation water. Floods and droughts frequently occur in Lao PDR, but it is expected that the impacts will magnify over the coming years. According to the 4th Intergovernmental Panel on Climate Change (IPCC) report of 2007, the Mekong basin should expect a 35-41% increase in maximum monthly flows and a 17-24% decrease in minimum monthly flows over the course of this century. This may lead to more floods in the wet season and water scarcity in the dry season.

Increased magnitude and frequency of droughts and floods threaten agricultural production and food security. Lao farmers are already subject to a significant risk and uncertainty with regards to changing rainfall patterns, with households across the country experiencing annual rice shortfalls. Approximately 46% of the rural population (around 188,000 households) is vulnerable to drought, based on a 2007 countrywide National Risk and Vulnerability Assessment conducted by World Food Program. Any shortfalls in food production have grave consequences for the well being of the rural population.

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24. Global Adaptation Institute Index (GAIN). *Laos Country Profile.* Available online: http://index.gain.org (last accessed August 26 2013).
25. The Nature Conservancy's. *Climate Wizard* in: Norwegian Church Aid Act Alliance, (2009). *Growing Resilience: Adapting for Climate Change in Upland Laos, Main Report.*

Community forestry and climate change adaptation

Traditionally, Lao farmers have coped with crop losses by turning to the forest to provide basic foods, collecting NTFPs for consumption and sale.[26] Climate change-induced agriculture failures will increase the reliance of rural communities on forest resources to make ends meet, particularly for communities with the least household assets. Women in rural communities will be especially impacted by climate change, as traditionally, they are responsible for ensuring household food security and collecting food from the forest, such as bamboo shoots, mushrooms, vegetables and livestock fodder.[27]

Climate change also threatens the productivity of the forest itself. According to the Comprehensive Food Security and Vulnerability Analysis of the World Food Program (2007) for Lao PDR, degraded forest resources means less access to wild fruits, vegetables and other household staples. Overall, it is estimated that around 157,000 (±20,000) people would become food insecure if hunting, gathering and fishing became less productive.[28] However, changes in agriculture will occur more swiftly than to forest ecosystems, which are more resilient by nature. Sustainable management and sale of timber may be a key alternative income generation strategy, in light of agricultural variability.

However, in Lao PDR, the majority of communities who rely most on forest resources do not have secure use or management rights over them. Secure use or management rights over local forests will be increasingly important for rural communities in the face of climate change. Expanding participatory forest management across the country would empower local people to play a more active role in natural resource planning, and has the potential to provide a platform to engage in adaptation planning in light of climate change.

The following sections on policies and planning, legal reform, project development, public funding, and private investment, and capacity building summarize existing approaches and provide recommendations on how CBFM can be used to support climate change adaptation across the country. A roadmap diagram at the end of this report visually displays recommended actions for relevant stakeholders to uptake through the year 2020.

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26. Senyavong, V, (2010). *Resilience to Climate Change in Upland Lao PDR. Workshop: Indigenous Women, Climate Change and Reducing Emissions from Deforestation and Degradation (REDD+)*, Mandaluyong City, Philippines, 18-19th November 2010.
27. Ibid
28. Lao PDR, (2009). *National Adaptation Programme of Action to Climate Change.*

Box 1 - Bamboo harvesting and forest fire prevention in Bokeo

CASE STUDY: Case Study: ForInfo Project - Bamboo Harvesting and Forest Fire Prevention in Bokeo Province

Project duration: April 2011 - December 2014

Project implementer: RECOFTC – The Center for People and Forests

Partners in Lao PDR: Provincial Agricultural and Forestry Office, Bokeo; Department of Investment an Planning, Bokeo; Paper Pulp Company, Meung District

Donor: Ministry of Foreign Affairs of Finland

Location: Meung District, Bokeo Province, Lao PDR

Project outcomes and lessons learned: Northern Lao PDR is at high risk of forest fire due a largely degraded shifting cultivation landscape and ongoing practice of shifting cultivation. Forest fires in this region spread fast due to a high prevalence of bamboo, which dominates degraded upland fallow and secondary forest areas. Bamboo is a fast growing grass that deposits up to 50 tons/hectare of fallen, dead and dried bamboo biomass; a significant fire hazard. Climate change will likely affect overall rainfall patterns leading to more weather extremes, increase incidence of storms and lightning, which would in turn augment the frequency and magnitude of these forest fires in Lao PDR. Forest adaptation activities must be prioritized in order to prevent further forest degradation over the coming decades.

The ForINFO project is developing bamboo harvesting technologies to increase market access for communities in Northern Lao PDR. It is expected that the extraction, processing and sale of bamboo from secondary degraded forests, will lead to:

1) Decreased fuel loads and fewer forest fires, thus reducing carbon emissions

2) Increased natural regeneration of native tree species providing a permanent tree forest cover, and;

3) New employment opportunities for local people.

It is expected that the application of harvesting machinery will allow local communities to harvest up to 2 tons of bamboo/person/day, generating income between USD $12 and USD $15 /person, given the currently relatively low prices for dry bamboo raw material of USD $10 to 12 /ton. This project provides an innovative example of forest adaptation and mitigation synergies, addressing the predicted increase in forest fire and diversifying income generation activities, all while protecting and enhancing permanent carbon stocks.

For more information pleases visit the ForInfo website at: http://www.recoftc.org/site/resources/ForInfo/

Policies and planning

Incorporating community forestry into national climate change adaptation strategies, and incorporating climate adaptation into forest policy objectives and implementation is critical to advancing community forest-based adaptation. There is already a focus on agricultural adaptation in Lao PDR, but less focus on forest-based adaptation.[29]

Key institutions

The National Steering Committee on Climate Change and eight Technical Working Groups were established in 2008.[30] Together they serve as the central, inter-agency groups responsible for advising climate change policies and programmes across the three key Ministries, the Ministry of Natural Resource and Environment (MONRE), Ministry of Agriculture and Forestry, and Ministry of Investment and Planning.

Climate Change Policy coordination has been a challenge thus far, with responsibilities spread over multiple ministries.[31] However, planning has improved since the establishment of MONRE in 2011, which grouped together the previous Department of Water Resources and Environment Administration; and the National Land Management Administration as well as the administration of Protection Forests and Conservation Forests, which were previously part of the Ministry of Agriculture and Forestry.[32] Other relevant institutions include the:

- Climate Change Office/Secretariat;
- National Disaster Management Committee and Disaster Management Office;
- Ministry of Finance, which is responsible for benefit-sharing of timber revenues;
- Ministry of Industry and Commerce, which is responsible for timber industry relations;
- Department of Environmental and Social Impact Assessments;
- Department of Forest Inspection;
- National Agriculture and Forestry Research Institute;
- National Agricultural and Forestry Extension Service, and the;
- Agriculture and Forest Offices at Provincial and District levels, which are responsible for organizing village forestry at the local level.[33]

Key policies

The Strategy on Climate Change of the Lao PDR (2010) and the National Adaptation Programmeme of Action to Climate Change (NAPA) are the most prominent policies relevant for community forest-based climate change adaptation (further information below). Other relevant policies include the:

- Forest Strategy 2020, which sets high targets for sustainable forest management but has no mention of climate change;
- National Environmental Strategy Management to 2020;
- Environmental Education and Awareness Strategy to 2020;
- Environmental Education and Awareness Action Plan 2006-2010;
- National Biodiversity Strategy to 2020;
- Action Plan for National Forestry Strategy to 2020;

29. Personal Communication, Thongsavath Bhoupa. (2012).
30. Lao PDR, (2010). *Strategy on Climate Change of the Lao PDR.*
31. Personal Communication , ThongsavathBoupa, (2012).
32. Ministry of Agriculture and Forestry, Lao PDR, (2011). Country Report: Lao PDR.
33. RECOFTC, ASFN, and SDC, 2010). *The Role of Social Forestry in Climate Change Mitigation and Adaptation.* Available online: http://www.recoftc.org/site/uploads/content/pdf/ASFN%20v10%20-web%20version%20(compressed)_139.pdf (last accessed Oct 16, 2013).

- National Policy on Hydropower Sector;
- The Decree on Environment Impact Assessment;
- The Resettlement Decree and the Water Resource Management Strategy.

Though forest-related and community-based approaches are often mentioned in these policies, specific references to community forestry are rare.

The Strategy on Climate Change of the Lao PDR (2010)

The Strategy on Climate Change of the Lao PDR is the central document outlining a long-term national plan for addressing adaptation and mitigation. The Strategy outlines the national approach to mainstream climate change within the 7th National Socio-Economic Development Plan (2011-2015), and outlines how Lao PDR will work with regional partners and the international community to build climate resilience into poverty reduction and economic development plans. The strategy identifies seven priority areas for mainstreaming adaptation and mitigation initiatives, including the area of 'forestry and land use.'[34]

Forest-based adaptation and community-based adaptation are mentioned in the Strategy independent of one another. Suggestions for forest-related adaptation policies and practices include:

i) incorporating climate concerns in long-term forest policymaking and forest management practices;
ii) expanding protected areas and link them wherever possible to promote natural migration;
iii) promoting mixed species forestry to reduce vulnerability;
iv) undertaking anticipatory planting and assist natural migration through transplanting plant species;
v) promoting in situ and ex situ gene pool conservation; and
vi) strengthening forest fire prevention and management.[35]

The document goes on to suggest the strategy of 'improving forest management systems to support the rural incomes'. The document does not reveal a plan to carry out these strategies, and does not prioritize certain approaches over others. There is a great opportunity to integrate community-based approaches and CBFM into follow-up adaptation projects and planning approaches, especially in light of their stated interest to support rural incomes through improved forestry practice.

The National Adaptation Program of Action for Climate Change (NAPA)

Launched in 2009, the NAPA for Lao PDR contains a range of priority projects totaling a budget of US $85 million. The objective of the NAPA is to develop country-driven projects to address immediate and urgent climate-related issues across four key areas including forestry (14 projects), agriculture (13 projects), water (9 projects) and health (8 projects).[36]

The NAPA recognizes that, 'Coping capacity is strongly associated with the wealth and assets of the household; and social networks and access to forest resources are also important.'[37] One of the NAPA's top two priority project proposals with regard to forest-based adaptation is to 'strengthen capacity of village forestry volunteers in forest planting, caring and management techniques as well as the use of village forests.'[38] Prioritizing village

34. Ministry of Agriculture and Forestry, Lao PDR, (2011). *Country Report: Lao PDR.*
35. Lao PDR, (2005). *Forestry Strategy to the Year 2020 of the Lao PDR.*
36. Lao PDR, (2009). *National Adaptation Programm of Action to Climate Change.*
37. Ibid
38. Ibid

forestry as a key adaptation mechanism in the NAPA demonstrates increasing government recognition the potential for CBFM to contribute to national adaptation goals. However, for this project proposal and many others listed in the NAPA, there is a need to follow up and secure funding for implementation.

The Forestry Strategy to the Year 2020 (FS202)

The Forestry Strategy to the Year 2020 (FS2020) provides direction for sustainable forest management in line with other national environmental conservation and socio-economic development efforts. The policy sets the ambitious target to restore forest cover to 70% of the total land area by the year 2020. However there is no reference to how forests may be impacted by climate change, or how forestry may support national climate resilience.

Recommendations for policy and planning

- Follow up and secure funding for proposed projects under NAPA, namely the proposal to 'strengthen capacity of village forestry volunteers in forest planting, caring and management techniques as well as the use of village forests';
- Mainstream climate change science and adaptation plans in policies related to the Forest Strategy to the Year 2020, as the Strategy currently fails to recognize climate change impacts;
- Promote inter-sectoral coordination between the Ministry of Agriculture and Forestry, the Ministry of Natural Resources and Environment, the National Steering Committee on Climate Change, to assess and plan for how community forestry can better support national climate adaptation efforts;
- Incorporate community forestry approaches to climate adaptation when developing National Park management plans;
- Incorporate NTFPs into climate adaptation planning for the agricultural sector, to achieve greater product diversification and resilience to climate change;[40]
- Pursue policies that permit and encourage entrepreneurship in community forestry.

39. RECOFTC, ASFN, and SDC, 2010). The Role of Social Forestry in Climate Change Mitigation and Adaptation. Available online: http://www.recoftc.org/site/uploads/content/pdf/ASFN%20v10%20-web%20version%20(compressed)_139.pdf (last accessed Oct 16, 2013).
40. Lefroy, R., Collet, L. and Groverman, C., (2010). Study on Potential Impacts of Climate Change on Land Use in the Lao PDR. International Center for Tropical Agriculture (CIAT) and GIZ.

Legal reform

The Forest Law of 2007 divides national forestlands into three categories: Protection Forestland, Conservation Forestland, and Production Forestland. However, 30% of Lao PDR's forest area has not yet been formally classified. Village forest areas may fall under each category, and different terms of use apply for each.

Village forests

Village forests only exist as a land use category, and very few community forestlands have been given formal land titles, despite existing legal provisions for communal ownership. The contemporary legal framework for collective land tenure and use rights is built through combining various legal instruments found in The Constitution of the Lao People's Democratic Republic (Revised 2003), the Property Law of 1990, the Land Law of 2003, the Law on Local Administration of the Lao People's Democratic Republic of 2003, and the Forestry Law of 2007. Because the framework is spread out over a variety of documents, there is often confusion over definitions within these laws regarding which land can qualify as communal, who may be included within a community user group, and what specific rights a village may have over communal land.

While local people may gain the rights to manage and utilize forest resources in Village forests, they do not collectively own the land and cannot lease, transfer, sell, or use the land as collateral. The Law states:

> Natural forest and forestland is the property of the nation community and the State manages through centralization and unity throughout the country. Trees planted by people or planted by an organization in the areas designated with their labor and/or funds within recognition of the Forest and Forestland Management Organization shall become the property of such individuals or organizations.

In production forests, community members may work with local government authorities on conservation and management projects within the village boundary. According to the Forest Strategy to the Year 2020:

> Villagers are allowed to collect and sell NTFPs and harvest timber for domestic use. They may be allocated land for tree planting and regeneration, and ownership of the resulting trees is guaranteed upon registration. Land tax may also be waived on tree plantations under certain conditions.

In addition, villages may leverage their State-recognized customary user rights for traditional household use, as long as they are in line with local management plans. Customary rights allow local people five cubic meters of timber per household for construction; collection, use, and sale of NTFPs; hunting of non-protected wildlife species; and use of degraded forest for agriculture and grazing.

Furthermore rural people are permitted to extract resources in production areas only in accord with the regulations as adopted by the District Agriculture and Forestry Office (Article 28, Forestry Law). Article 40 of the Forestry Law (2007) states:

> Utilization of timber for construction activities such as the village office, meeting hall, schools and dispensary are allowed only from the village use forest with the authorization of the District or Urban Administration authority …Non-commercial utilization of forest products for medicinal use, decorative activities, exhibition is allowed in the classified forest zones.

Village forestry is a precursor for the current Participatory Sustainable Forest Management in Production Forest Areas model currently being employed under the Forest Investment Program (FIP) (further information in Projects section below). Unfortunately, many village forests located within production forests are often too small or too degraded to provide enough timber for communities. This can lead communities to illegally extract resources from Conservation Forestlands.

Communal land

Communal land is land that the State grants to a group or collective, which may be a village, or group of villages (National Land Management Authority's Ministerial Instruction 564 on Adjudications Pertaining to Land Use and Occupation for Land Registration and Titling). All types of land allocated to village communities can be registered as Communal Land Titles, according to the Prime Minister's Decree on Land Titling, No. 88 of 3 June 2006. In 2011, the Governor of Sangthong district, Vientiane Capital approved the first temporary communal land titles for participatory management of sustainable bamboo production in the Sangthong district (Ban Na Pho, Ban Wang Mar, Ban Sor and Ban Kouay villages). Going forward, the Government has the goal to develop 1.5 million communal land titles over the period 2011-2015, according to the 5-year National Socio-Economic Development plan. Nevertheless, few formalized communal land titles have been established largely due to unclear processes, especially after many relevant government staff were relocated along with the creation of the new Ministry of Natural Resources and Environment.

While most rural communities have strong customary rights over forestlands, they lack formally recognized land tenure. The government recognizes customary right to communal property; however, the provisions and procedures for the registration of communal rights on land remain unclear for local communities. The process of privatizing or registering land under state ownership process usually neglects customary common property arrangements. In addition, poor farmers may favor short-term cash gains of selling land over long-term land stewardship.[41]

Some NGOs are moving forward with communal land titling at the project level. Bamboo producers in the Sangthong district received the first communal land titles in 2011 with help from SNV, Gender Development Group, and WWF.[42] In addition, rattan producer groups in Borikhamxay province have developed communal management plans, despite a lack of communal land titles.[43] However, the government needs to clarify and strengthen the legal standing of communal land titling to ensure the sustainability of similar planning programmes.[44]

Land and Forest Allocation Program

The Land and Forest Allocation Program became a nationwide policy via Decree No. 186 in 1994, instated to eradicate shifting cultivation and promote cash crop-based sedentary agriculture. By 2005, over half the country's villages (6,830) had participated in the allocation exercise.[45] In order to eliminate shifting cultivation, the Program had the goal to both '(raise) agricultural productivity and income by ensuring land tenure security, and to encourage village communities to protect and use forest resources on a sustainable basis'.[46] Under the

41. Lefroy, R., Collet, L. and Groverman, C., (2010). Study on Potential Impacts of Climate Change on Land Use in the Lao PDR. CIAT and GIZ.
42. Forest Carbon Asia, (2011). Laos issues its first communal forest land titles: National workshop discusses lessons learnt. Available online: http://www.forestcarbonasia.org/articles/laos-issues-its-first-communal-forest-land-titles-national-workshop/ (last accessed December 21, 2012).
43. Personal communication, Richard Hackman, (2012).
44. Lin, M and Sigaty, T, (2009). Legal Analysis of Communal Land and Communal Title in the Lao PDR.
45. RECOFTC, ASFN, and SDC, 2010). The Role of Social Forestry in Climate Change Mitigation and Adaptation. Available online: http://www.recoftc.org/site/uploads/content/pdf/ASFN%20v10%20-web%20version%20(compressed)_139.pdf (last accessed Oct 16, 2013).
46. Takahashi, S, Sengtaheuanghoung and Luohui, L, (2010). Implications for Land Use Changes in Lao PDR: Moving Towards Effective Implementation of REDD+ and Adaptation to Climate Change. Prepared for the 2nd UNITAR-Yale Conference on Environmental Governance and Democracy, 17-19 September 2010, New Haven, USA.

allocation exercise, the State intervenes, protecting some portion of village land with the formal recognition of private ownership in authorized farming areas.[47]

While the intention of the Program was to clarify forestlands for the joint benefit of forest restoration and livelihood security, the majority of lands have been zoned for protection, which preclude collection of fuel wood and NTFPs.[48] Furthermore, in areas where the Program reduces the overall cropland available, it creates the adverse incentive for villagers to continue practicing shifting cultivation, thus going against the whole purpose of the policy.[49]

The implementation process has also faced difficult challenges due to financial constraints, lack of adequate data, low geographic information science capacity, and failure to meet diverse local realities.[50] In addition, the law does not take into account the diversity of indigenous group relationships to the land. In the 1980s and 1990s, the active resettlement programme worked to reduce shifting cultivation by relocating communities from upland areas to lowland farming areas. This move has placed certain indigenous groups in unfamiliar terrains containing different resources, which has led to changes in land use.[51] In some cases land allocation efforts have proven counterproductive to its goals of forest conservation and agricultural modernization, engendering social conflict between indigenous groups and marginalizing the poorest farmers.[52] Furthermore, the programlacks a monitoring and evaluation system to follow up on management after allocation exercises take place.

A participatory land allocation process is needed to address the current gap between the policy process and local realities 'on the ground.' A participatory approach to land and forest allocation could potentially widen the scope of benefits, linking land tenure and management issues with climate adaptation, in addition to biodiversity conservation and forest restoration.[53]

Reforms

The government of Lao PDR is currently in the process of facilitating land reforms across the country, which are likely to bring more secure local rights to forestlands. The Land Policy, Land Law and Forest Law are currently under review and revision by MoNRE. The Rights and Resources Initiative has worked to support MoNRE and the National Assembly to review options during this revision period.[54] Several groups are advocating for community land titling to be included in the revision.[55] This would give communities stronger rights over forest management, and give them further confidence to undergoing climate adaptation planning in these management areas.

47. Ducourtieux, O, Laffort, J.R and Sacklokham, S, (2005). Land Policy and Farming Practices in Laos. Development and Change 36 (3): 499-526 (2005).
48. Lao PDR, (2005). Forestry Strategy to the Year 2020 of the Lao PDR.
49. Ibid
50. Takahashi, S, Sengtaheuanghoung and Luohui, L, (2010). Implications for Land Use Changes in Lao PDR: Moving Towards Effective Implementation of REDD+ and Adaptation to Climate Change. Prepared for the 2nd UNITAR-Yale Conference on Environmental Governance and Democracy, 17-19 September 2010, New Haven, USA.
51. Lefroy, R, Collet, L and Groverman, C, (2010). Study on Potential Impacts of Climate Change on Land Use in the Lao PDR. CIAT and GIZ.
52. Ducourtieux, O, Laffort, J.R and Sacklokham, S ,(2005). Land Policy and Farming Practices in Laos. Development and Change 36 (3): 499-526.
53. Takahashi, S, Sengtaheuanghoung and Luohui, L , (2010). Implications for Land Use Changes in Lao PDR: Moving Towards Effective Implementation of REDD+ and Adaptation to Climate Change. Prepared for the 2nd UNITAR-Yale Conference on Environmental Governance and Democracy, 17-19 September 2010, New Haven, USA.
54. Personal communication, ThongsavathBhoupa, (2012).
55. Personal communication, Richard Hackman, (2012).

Recommendations for legal reform

- **Clarify the legal framework for participatory land and resource use planning at the village level** – This should be undertaken in the current revision of Land Law and Forest Law, and should ensure that the Land and Forest Allocation Program explicitly takes climate change adaptation and vulnerability into account.

- **Customary land tenure must be taken into account during the Land and Forest Allocation Program** – The implementation of the Land and Forest Allocation Programmust ensure that groups with customary land tenure are not marginalized. Customary land tenure arrangements should be taken into consideration in allowing communities to determine the allocation of and boundaries between agricultural and forest lands.

- **Clarify existing provisions for communal land titling** – A provision is needed on whether villages can receive communal title to Protection and Conservation Forests in addition to Village Use Production Forests. Overlaps between Instruction 564, and Decree 88 should also be addressed (which identifies Article 59 of the Land Law).[56]

- **Increase public awareness of legislation** – Information on legislation that is relevant to forest-based adaptation should be disseminated clearly and widely, especially from national to local level government agencies. This would help meet the NAPA's goal of raising public awareness of adaptation relevant laws.

56. Rights-LINK, (2012). Lao PDR Data. Available online: http://rightslinklao.org/eng/index.php?option=com_content&view=article&id=89&Itemid=54 (last accessed December 20, 2012)..

Project development

The last few years have seen a rapid uptake of community forest-based adaptation pilot projects in Lao PDR. All projects are funded by private foundations, bilateral or multilateral donors and implemented by donor agencies or international NGOs.

A list of the key projects focusing on climate adaptation and community forestry in Lao PDR is provided below:

Table 1. Select list of community forest-based adaptation projects in Lao PDR (not comprehensive list)

Project and partner(s)	Geographic scope	Project description
Mekong Asia-Pacific-Community-Based Adaptation (MAP CBA)[57]	National	The UNDP Mekong Asia-Pacific-Community-Based Adaptation (MAP CBA) is undertaking projects that strengthen capacity of community-based organizations in sustainable natural resource management and developing agro-forestry systems for watershed protection and erosion reduction in steep areas. MAP CBA Lao PDR will build the capacity of communities and governments working at the local level to manage anticipated climate change risks; thereby paving the way to provide lessons for scaling up and replication. Projects will be implemented in areas that are particularly vulnerable to climate change including variability in order to ensure cost-effectiveness.
Norwegian Church Aid (NCA)[58]	Sub-National	NCA has a number of development projects in Northern Lao PDR, including projects on livelihoods and trade that address community involvement in natural resource management and climate adaptation. NCA works with 33 communities in the Long and PhaOudom districts. NCA put out a key report in 2009 called *Growing Resilience: Adapting for Climate Change in Upland Laos*, which included a number of recommendations for climate change adaptation capacity building in rural communities.
Scaling-Up Participatory Sustainable Forest Management Project (SUPSFM) (International Development Assistance, FIP, Government of Lao PDR, Government of Finland)	National	The aim of this $39.39 million USD-project (2013-2018) is to expand PSFM and pilot forest landscape management across four northern provinces of Lao PDR, with the ultimate goal of reducing carbon emissions. A continuation of the SUFORD project (2003-2012), this project will be implemented by the Department of Forestry (DoF), with hopes of establishing Village Forest and Livelihood Committees. The project does not explicitly address climate adaptation, but has the potential to develop increased resilience in a significant portion of the country's village forest groups through its proposed activities on participatory forest management and climate change mitigation.[59]
Mekong Adaptation and Resilience to Climate Change (Mekong ARCC) (USAID)	Regional	This regional USAID project (2011-2016) will work in Lao PDR, as well as the other three lower Mekong countries (Cambodia, Thailand and Vietnam), to 1) research and identify key climate change impacts for the region's most vulnerable populations, and 2) assist communities in highly ecologically sensitive areas to adapt. As of July 2013, the project received proposals to fund "Ecosystem and Community-based Climate Adaptation and Resilience Building Initiatives" for the provinces of Khammouan and Champhasak, Lao PDR.[60]

57. United Nations Development Programme, (2012). United Nations Development Programme in Lao PDR. Available online: http://www.la.undp.org/lao_pdr/en/home.html (last accessed October 15, 2012).
58. Norwegian Church Aid, (2012). Laos. Available online: http://www.kirkensnodhjelp.no/en/What-we-do/Where-we-work/Asia/laos/ (last accessed September 20, 2012).
59. The World Bank, (2013). World Bank supports Participatory Sustainable Forest Management in Lao PDR. Available online: http://www.worldbank.org/en/news/press-release/2013/08/08/world-bank-supports-participatory-sustainable-forest-management-in-lao-pdr (last accessed Oct 15, 2013).
60. Mekong ARCC. Our Work. Available online: http://mekongarcc.net/ourwork/our-work (last accessed Oct 15, 2013).

Project and partner(s)	Geographic scope	Project description
Maeying Huamjai Phattana (MHP; also known as Women Mobilizing for Development)[61]	Sub-National	MHP is working to develop a network of indigenous women leaders, and will facilitate workshops that will enable them to discuss climate change issues in their own language. MHP is also identifying key areas of valuable NTFPs, in conjunction with indigenous communities, and mapping them on a Geographic Information System.
ForInfo (RECOFTC)	Sub-National	(see Case Study Box)

Recommendations for project development

- **Incorporate adaptation planning and activities into Village Forest initiatives** – With relevant pilot projects just beginning in 2012 and 2013, there is a need to share lessons learned and identify best practices for scaling up. With substantial funding secured to expand village forestry through the Scaling-Up Participatory Sustainable Forest Management (SUPSFM)project, there is a great opportunity to incorporate adaptation activities into the management planning process.

- **Integrate adaptation and mitigation project objectives** – Integrated adaptation and mitigation solutions should be developed and implemented within existing CBFM projects such as SUPSFM, with the aim to achieve adaptation and mitigation goals while generating localized environmental, social and economic benefits.

- **Scale-up NTFP species mapping** – As Lao PDR is the 'NTFP breadbasket' of the Mekong region, species mapping will be critical to monitor climate change impacts. Participatory mapping projects should especially make use of indigenous knowledge and focus on female stakeholders, who in general have greater NTFP collection responsibilities in Lao PDR.

- **Further develop income generation opportunities through village forestry** – Many of the current projects are focused on the basic step of expanding CBFM and getting rights for community members. However, once CBFM is formally established through village forestry, follow up pilot projects will be needed to link forest products to the market. This will help develop alternative sources of income in the face of climate change and agricultural uncertainty.

61. Senyavong, V, (2010). Resilience to Climate Change in Upland Lao PDR. Workshop: Indigenous Women, Climate Change and Reducing Emissions from Deforestation and Degradation (REDD+), Mandaluyong City, Philippines, 18-19th November 2010.

Public funding and private investment

As one of the poorest countries in Southeast Asia, Lao PDR lacks domestic funding resources for adapting to climate change.[62] However, as a least developed country (LDC), Lao PDR is eligible for assistance from a broad range of climate adaptation funding sources such as the Least Developed Countries' Fund. In addition, Lao PDR is also a target for forest funding programmes such as the FIP (see below). The convergence of broader adaptation funding with forest-specific funding means that there is very high scope for funding resources to be applied to community forestry-based climate adaptation approaches. Supporting self-sustaining community forestry-based enterprise and livelihoods activities would also boost the financial sustainability of these funding programmes, and help reduce long-term donor reliance.

Forest Investment Program (FIP)

Lao PDR was chosen as one of eight pilot countries under the FIP under the Climate Investment Fund and the Forest Carbon Partnership Facility.[63] Participatory sustainable forest management (PSFM) is the central focus of the FIP Lao Investment plan with major climate mitigation goals through REDD+ development and co-benefits of 'climate resilient development'. The FIP has the aim to put 'all forest land and resources under participatory and sustained protection, development, and management, in a serious although ambitious attempt at leaving no gaps for the various drivers of deforestation and forest degradation to operate'.[64] Lao PDR received an approval from the FIP Sub-Committee in October 2011 for a proposed USD $30 million investment plan. The Asian Development Bank, the World Bank, and the International Finance Corporation will finance the programme from 2013 to 2020.[65]

In total, it is estimated that USD $150 million will be made available for FIP implementation, which includes the USD $30 million grant from FIP in combination with existing budgets of several partners in the forestry sector that are aligning their programmes and activities with REDD+, as well as new grant financing that FIP has attracted from other multilateral development banks and bilateral donors. The bulk of these funds are being applied through existing project and programme channels where financial management and procurement capacity has already been established and will continue to be strengthened during FIP implementation.[66]

FIP is currently financing three separate projects to develop PSFM from many angles, giving USD $500,000 to the Protecting Forest for Sustainable Ecosystem Services project, USD $3 million to the Smallholders and Private Enterprise Partnerships project, and USD $12.83 million for the SUPSFM (see Projects section above). As of May 2013, USD $12.87 million remains available for future allocation.[67]

While FIP funding is being allocated primarily towards climate mitigation projects, there are considerable co-benefits for adaptation. FIP believes that their projects support climate resilient development in two ways: reducing poverty, and reducing losses in biodiversity and forest ecosystem services.[68] The project's emphasis on supporting alternative livelihoods through sustainable forest management has great potential to help build resilience in target communities.

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62. Rasabud, S, (2011). *Country Report: Lao PDR.* Workshop on Climate Change and its Impact on Agriculture, Seoul, Republic of Korea, 13-16 December 2011.
63. Climate Investment Funds, (2012). *Forest Investment Programme.* Available online: https://www.climateinvestmentfunds.org/cif/node/5 (last accessed September 25, 2012)
64. Lao PDR, (2011). Forest Investment Programme, Lao Investment Plan – Master Draft: 19 September 2011.
65. The REDD Desk, (2011). *Forest Investment Programme (Lao PDR) – National. Available online*: http://www.theredddesk.org/countries/laos/info/activity/forest_investment_programme_lao_pdr_national (Last accessed January 9, 2013).
66. Lao PDR, (2011). *Forest Investment Programme: Lao Investment Plan.*
67. Climate Investment Funds, (2013). *Lao PDR's FIP Programming. Available online*: https://www.climateinvestmentfunds.org/cifnet/?q=country-programme-info/lao-pdrs-fip-programming (last accessed Oct 16, 2013).
68. Lao PDR, (2011). *Forest Investment Programme: Lao Investment Plan.*

Mekong Asia Pacific Community-based Adaptation (MAP CBA)

The MAP CBA is a USD $6 million project working across 20 countries, and part of the UNDP Small Grants Programmeme for Community-based Adaptation.[69] The MAP-CBA Lao PDR country strategy was developed in 2010. The MAP CBA programme will be implemented under the existing Small Grants Programmeme infrastructure in Lao PDR.

Recommendations for public funding and private investment

- **Further specify and document adaption co-benefits within large-scale climate mitigation funding schemes** such as the FIP in Lao PDR in order to ensure that mitigation activities support resilient livelihoods

- **Promote village-level management of adaptation funds** – As part of the CBFM piloting process, consideration should be given for the creation of community forest adaptation funds similar to the model applied in Nepal (please see Community Forestry Adaptation Roadmap to 2020 for Nepal)[70]

69. The Global Environmental Facility Small Grants Programme, (2011). *The GEF Small Grants Programme Delivery of Community Based Adaptation (CBA) Projects.*
70. Personal communication, Luohui Liang, (2012).

Capacity development

Climate change preparedness is lacking across sectors in Lao PDR, and there is a pressing need to invest in climate change education at the government and local levels. Low internal financial capacity for adaptation planning is compounded by a lack of human resources and institutional governance challenges.[71]

Climate change is a relatively new concept to the majority of citizens in Lao PDR and detailed understanding of the scientific, political, ecological and economic consequences for mitigation and adaptation is limited to a few institutions and individuals. Significant uncertainties regarding the potential impacts of climate change pose a challenge to adaptation planning. Long-term scientific studies on national climate change impacts are needed, in addition to documentation of the traditional adaptation practices of local communities.

In addition, Lao PDR's forest management system is in need of significant technical and human resource investment. In particular, district level extension service capacity building and resources are needed to facilitate participatory land use planning, and to help villagers secure communal land titles. As of 2010, only six out of 106 Production Forest Areas in the country had approved management plans. In addition, benefit-sharing mechanisms are rarely implemented, which disenfranchises villagers who are legally guaranteed a share of income from large-scale timber harvesting enterprises.

The shifting cultivation eradication programme suffers from lack of community engagement and training capacity within the government. Rural communities may be relocated to farming intensive areas and be instructed to plant cash crops, without receiving adequate training in new agricultural methods. Capacity development is needed from government to local communities to educate local people on sustainable agriculture and agroforestry as alternatives to shifting cultivation.

Community forestry has the potential to build adaptive capacity at the village and national levels by harnessing the knowledge of local people, especially women. In this way, capacity building projects such as participatory resource mapping may use traditional knowledge to understand NTFP distribution, soil health, water quality and 'unidentified species' at the local level.[72] Agro-ecosystem planning schemes are quick and relatively inexpensive methods that could contribute directly to local, district-level and national-level adaptation planning efforts for agriculture and forestry, helping to identify potential markets, to predict income and food security, and to incorporate local knowledge into the planning process.[73]

Once land tenure is secured, community user groups composing men and women could undertake participatory assessment of useful species for sale and consumption, and then employ a zonal harvesting system to ensure sustainable management.[74] Furthermore, local level species maps could be helpful for neighboring communities who may wish to reintroduce certain species into their forest areas through seed or cuttings.[75] Harnessing the knowledge of local NTFP composition, and long-term community-based sustainable management of these resources are key for adaptation planning in times of crop failure.

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71. Global Adaptation Institute Index (GAIN). *Laos Country Profile. Available online*: http://index.gain.org (last accessed June 26, 2012).
72. Norwegian Church Aid Act Alliance, (2009). *Growing Resilience: Adapting for Climate Change in Upland Laos, Main Report.*
73. Ibid.
74. Senyavong, V, (2010). *Resilience to Climate Change in Upland Lao PDR. Workshop: Indigenous Women, Climate Change and Reducing Emissions from Deforestation and Degradation (REDD+),* Mandaluyong City, Philippines, 18-19th November 2010.
75. Norwegian Church Aid Act Alliance, (2009). *Growing Resilience: Adapting for Climate Change in Upland Laos, Main Report.*

One key organization working to build capacity of local women is MaeyingHuamjaiPhattana (MHP; or, Women Mobilizing for Development). MHP, linked with the Gender Development Association, has created a network of indigenous women leaders, and is facilitating workshops that will enable them to discuss these issues in their own language. They are also building capacity of government staff in Bokeo Province. By giving women the opportunity to share their experiences with each other, MHP hopes to foster resilience and reduce vulnerability in local communities. Through the network of indigenous women, MHP is identifying key areas of valuable NTFP's, and mapping them through Geographic Information System. This mapping system is a key capacity issue, because with the map, it is possible under Lao law to request village communal ownership. MHP is currently negotiating with donors to participate in a REDD scheme that will pay farmers for forest protection environmental service.[76]

Recommendations for capacity building

- **Train Village Forestry Volunteers** – Village forestry volunteers (as referenced in the NAPA) should be trained on how to conduct vulnerability assessments and adaptation planning (similar to the 'local resource person' model by the Federation of Community Forest Users Nepal)

- **The Forestry Technical Working Group should engage further with local government and communities** to disseminate information and coordinate knowledge sharing on forest-based adaptation with academic institutions

- **Create networks for local knowledge sharing** – Strengthen information gathering and horizontal information and knowledge sharing between communities and local government, modeling of climate change forest dynamics, and vulnerability assessments and mapping (engaging local communities). For example through replicating and scaling up MHP's model. A training of trainers' model could also be used to disseminate information on adaptation and to share local best practices and coping strategies.

- **Include climate change adaptation in higher education** – Create a Master's Degree programme in climate change adaptation at an appropriate academic institution in Lao PDR, with a focus on ecosystem and community-based adaptation.

- **Conduct trainings for government officials on community based forest management implementation** – Increase the training resources and opportunities available for government officials, particularly at the sub-national level, on CBFM.

76. Senyavong, V, (2010). *Resilience to Climate Change in Upland Lao PDR. Workshop: Indigenous Women, Climate Change and Reducing Emissions from Deforestation and Degradation (REDD+)*, Mandaluyong City, Philippines, 18-19th November 2010.

Lao PDR's community forestry and climate adaptation roadmap to 2020

This roadmap provides time-bound recommendations for policies and planning, legal frameworks, project development, financing and capacity building in the immediate present, 2015 and 2020 for Lao PDR.

Lao PDR	Immediately	2015	2020
Policies and planning	• Mainstream climate change science and adaptation plans in policies related to the Forest Strategy to the Year 2020, as the Strategy currently fails to recognize climate change impacts • Follow up to secure funding and implement the priority forestry sector projects under the National Adaptation Program of Actiona (NAPA), namely the proposal to 'strengthen capacity of village forestry volunteers in forest planting, caring and management techniques as well as the use of village forests.' • Promote inter-sectoral coordination between the Ministry of Agriculture and Forestry, the Ministry of Natural Resources and Environment, the National Steering Committee on Climate Change, to assess and plan for how community forestry can better support national climate adaptation efforts	By 2015, the role of village forestry has been expanded, with a better defined role for community forest groups when developing future adaptation plans By 2015, community forestry approaches to climate adaptation are mainstreamed into the development process of National Park management plans	• By 2020, NAPA's forestry priority projects have been implemented with a clearly defined role for community forest groups in local and national adaptation planning process

Lao PDR	Immediately	2015	2020
Legal reform	• Clarify the legal framework for participatory land and resource use planning at the village level. This should be undertaken in the current revision of Land Law and Forest Law, and should ensure that the Land and Forest Allocation Program explicitly takes climate change adaptation and vulnerability into account. • The implementation of the Land and Forest Allocation Program must ensure that groups with customary land tenure are not marginalized. Customary land tenure arrangements should be taken into consideration in allowing communities to determine the allocation of and boundaries between agricultural and forest lands.	By 2015, a provision is given on whether villages can receive communal title to Protection and Conservation Forests in addition to Village Use Production Forests. Overlaps between Instruction 564, and Decree 88 should also be addressed (which identifies Article 59 of the Land Law).[77] By 2015, the Land Policy, Land Law and Forest Law promote community land titling and take community-level vulnerability and adaptation needs into full consideration.	• Roadmap steps for 2020 dependent on outcomes of steps for 2012 and 2015
Project development	• Incorporate adaptation planning and activities into Village Forest initiatives. With relevant pilot projects just beginning in 2012 and 2013, there is a need to share lessons learned and identify best practices for scaling up. • Integrated adaptation and mitigation solutions should be developed and implemented within existing CBFM projects like SUPSFM, with the aim to achieve adaptation and mitigation goals while generating localized environmental, social and economic benefits.	By 2015, all major NTFP species in Lao PDR have been mapped, in order to monitor the impact of climate change on their distribution. This process should harness indigenous knowledge and focus on female stakeholders.	By 2020, all forests and climate change mitigation projects implemented in Lao PDR have well considered and integrated climate adaptation components.

77. Rights-LINK, (2012). *Lao PDR Data.* Available online: http://rightslinklao.org/eng/index.php?option=com_content&view=article&id=89&Itemid=54 (last accessed December 20, 2012).

Lao PDR	Immediately	2015	2020
Public funding and private investment	• Further specify adaption co-benefits within large-scale climate mitigation funding schemes, and seek out additional funding for CBFM from international adaptation funding sources.	• By 2015, as part of the CBFM piloting process, consideration should be given for the creation of community forest adaptation funds similar to the model applied in Nepal (please see Nepal case study).	• By 2020, domestic and private investment in climate change adaptation has increased, with community forestry-based adaptation approaches prominent.
Capacity development	• Village forestry volunteers (as referenced in the NAPA) should be trained on how to conduct vulnerability assessments and adaptation planning (similar to the 'local resource person' model by the Federation of Community Forest Users in Nepal). • The Forestry Technical Working Group should engage further with local government and communities to disseminate information and coordinate knowledge sharing on forest-based adaptation with academic institutions.	By 2015, information gathering and horizontal information sharing between communities and local government, should be improved, including modeling of climate change forest dynamics, and vulnerability assessments and mapping. A training of trainers' model could also be used to disseminate information on adaptation and to share local best practices and coping strategies. By 2015, a Master's Degree programme is created in climate change adaptation at an appropriate academic institution in Lao PDR, with a focus on ecosystem and community-based adaptation. By 2015, a formal series of trainings are conducted for Government officials on Community Forest based adaptation planning	• By 2020, local government officials across the country have the capacity to support communities to generate and implement community forestry based adaptation plans.

RECOFTC's mission is to enhance capacities for stronger rights, improved governance and fairer benefits for local people in sustainable forested landscapes in the Asia and the Pacific region.

RECOFTC holds a unique and important place in the world of forestry. It is the only international not-for-profit organization that specializes in capacity development for community forestry. RECOFTC engages in strategic networks and effective partnerships with governments, nongovernmental organizations, civil society, the private sector, local people and research and educational institutes throughout the Asia-Pacific region and beyond. With over 25 years of international experience and a dynamic approach to capacity building – involving research and analysis, demonstration sites and training products – RECOFTC delivers innovative solutions for people and forests.

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