

ANNEXES

Contents

| | |
|---|------------|
| Annex 1: Climate Change Risk Analysis | 2 |
| Annex 2: Summary of Stakeholder Consultation during PPG | 13 |
| Annex 2.1: Resource Persons PPG | 16 |
| Annex 2.2: Consultation Session NAFRI 25th of March 2010 (WS1)..... | 18 |
| Annex 2.3 Regional consultation South, Savannaketh, 28-29th of April 2010 (WS2) | 21 |
| Annex 2.4: National Planning Workshop Vientiane, 18th-19th of May 2010 (WS3) | 37 |
| Annex 2.5: Regional consultation North, Xayaboury, 17th-18th of June (WS4) | 48 |
| Annex 3: Stakeholder Involvement Plan | 63 |
| Annex 4: Capacity Assessment Key Institutional Stakeholders | 67 |
| Annex 5: UNDP Risk Log | 74 |
| Annex 6: International Technical Assistance / Consultants | 79 |
| Annex 7: Framework Conditions Project Entities, Personnel, Contracts | 81 |
| Annex 8: Co-Financing Letters | 88 |
| Annex 9.1: Work Plan Year 1 | 90 |
| Annex 9.2: Framework Indicative Activities..... | 96 |
| Annex 10: Information on Pre-selected Project Sites..... | 100 |
| Annex 11: General Facts Sheet Lao PDR | 116 |
| Annex 12: References | 124 |

Annex 1: Climate Change Risk Analysis

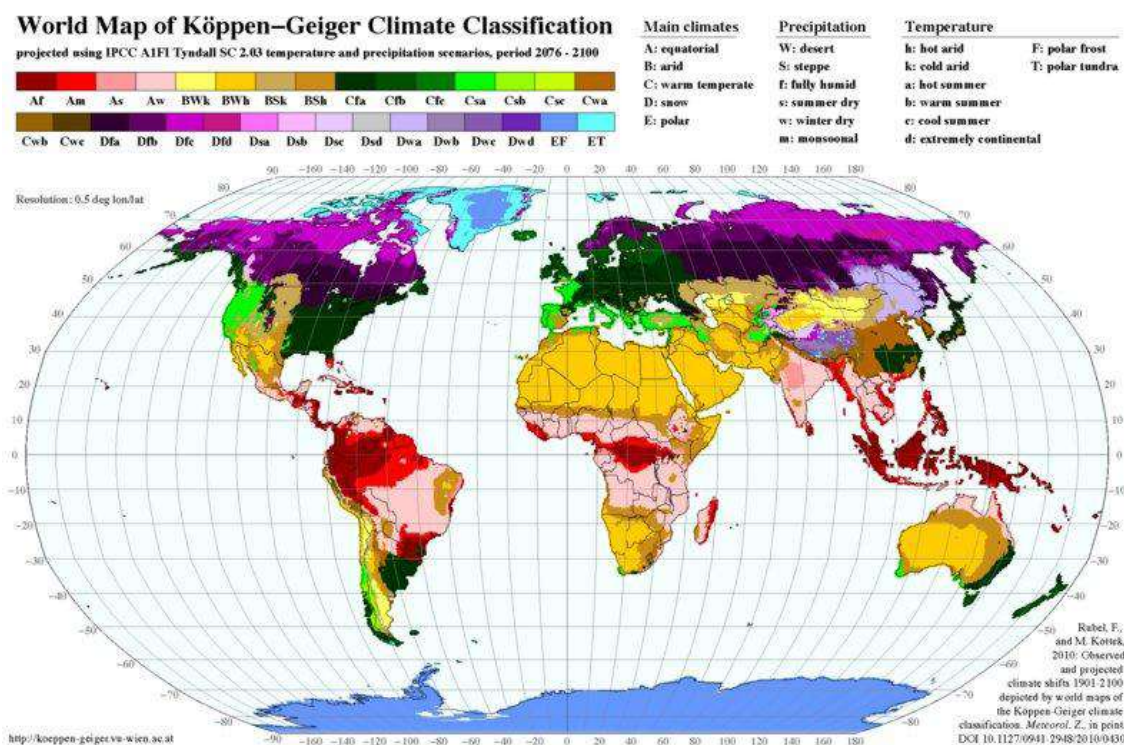
1. World Climate Classification and Lao PDR

This information refers to the highly referenced climate classification map, that of Wladimir Köppen, which was published for the first time in 1900 and updated in its latest version by Rudolf Geiger in 1961. This updated world map of Köppen-Geiger climate classification was based on temperature and precipitation observations for the period 1951-2000. Rubel and Kottek (2010) present digital world maps for the extended period 1901-2100 to depict global trends in observed climate and projected climate change scenarios. World maps for the observational period 1901-2002 are based on recent data sets from the Climatic Research Unit (CRU) of the University of East Anglia and the Global Precipitation Climatology Centre (GPCC) at the German Weather Service. World maps for the period 2003-2100 are based on ensemble projections of global climate models provided by the Tyndall Centre for Climate Change Research. The main results comprise an estimation of the shifts of climate zones within the 21st century by considering different IPCC scenarios.

Citation: Rubel, F., and M. Kottek, 2010: Observed and projected climate shifts 1901-2100 depicted by world maps of the Köppen-Geiger climate classification. *Meteorol. Z.*, **19**, 135-141. DOI: 10.1127/0941-2948/2010/0430.

Overview Global Climate Classification areas

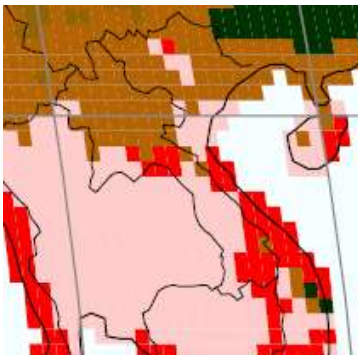
MAP Climatic Zones



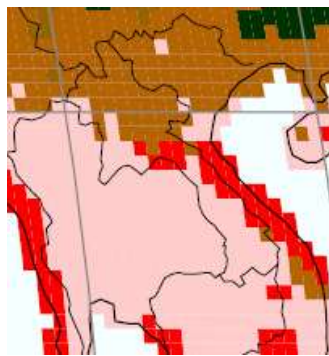
2. Observed situation for Lao PDR:

According to the updated Köppen-Geiger classification from 2006, Lao PDR is climatically part of the zones Am (equatorial monsoonal; red), Aw (equatorial, winter-dry; pink), and Cwa (warm-temperate, winter dry, hot summer; light brown), based upon the temperature and precipitation data from 1901 to 2000.

Observed 1901-1925



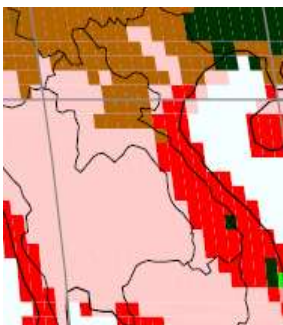
Observed 1976-2000



Future situation under selected IPCC scenarios

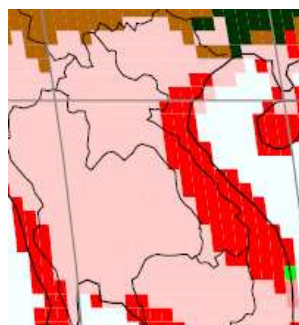
IPCC Scenario: A1F1

2001-2025

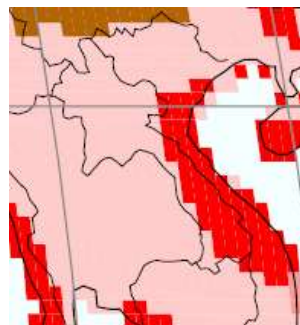


map

2026-2050



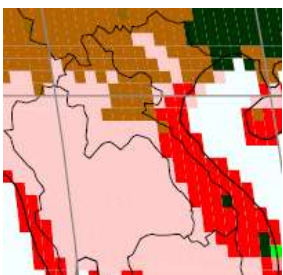
2051-2075



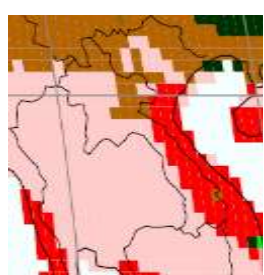
2076-2100

IPCC Scenario: B1

2001-2025



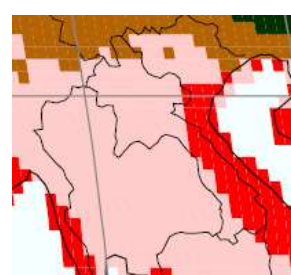
2026-2050



2051-2075

map

2076-2100



All IPCC scenarios expect a gradual change of the Cwa climate (light brown: warm-temperate) to the Aw climate (pink: equatorial) in the north and centre of Lao PDR, and an early expansion of the Am climate zone (red: equatorial monsoonal), later followed by shrinking of the zone, for the south and centre of the country (scenario until 2100). In ordinary terms it would mean more rainfall events in the centre and the north of the country during the first half of the century and an expansion of climatic conditions at present prevailing in the south, these slightly shrinking again in the second half of the century. The country would have two distinct climatic zones only, at present there are three.

These expected changes will require well-development resilience and early gained adaptive capacity of the agricultural sector and the farmers to cope with the situation.

3. Situation according to the NAPA

Observed Extremes and Change in the Climate of Lao PDR and in the Mekong River Basin:

TABLE 2. Mean annual rainfall and drought years in the Mekong River Basin from 1980-2003, where drought years are defined as having a rainfall of at least 20 percent below the average

| | Region | | | | | |
|---------------------------|---------------------|--------------------------------------|--------------------------------------|--------------------------------------|------------|--------------------------------------|
| | Northern (Thailand) | Khorat (Thailand) | Central (Laos) | Central Highlands (Vietnam) | Cambodia | Mekong Delta (Vietnam) |
| Station | Chiang Rai | Khon Ken | Pakse | Pleiku | Phnom Penh | Chau doc |
| Mean annual rainfall (mm) | 1900 | 1250 | 2000 | 2200 | 1300 | 1300 |
| Drought years | 1987 | 1985 1992 1993 1997 1998 | 1980 1992 1993 1997 1998 | 1980 1992 1993 1997 1998 | 1997 | 1990 1992 1994 2002 2003 |

Source: Drought Management Program Strategy, MRC, 2006.

The next table lists severe drought years in terms of average annual discharge (flow) of the Mekong and the return period in years for an equivalent low flow level:

TABLE 3. Severe hydrological drought events along the Mekong River mainstream

| No | Station | Year | Average discharge (m ³ /s) | Return period (year) |
|----|--------------------------|------|---------------------------------------|----------------------|
| 1 | Luang Prabang | 1957 | 2286 | 200 |
| | | 1992 | 2422 | 90 |
| | | 1958 | 2842 | 15 |
| | | 1987 | 3040 | 10 |
| | | 1956 | 3163 | 8 |
| | | 1967 | 3424 | 4 |
| 2 | Vientiane | 1957 | 2677 | 250 |
| | | 1992 | 2850 | 100 |
| | | 1931 | 3211 | 30 |
| | | 1958 | 3332 | 20 |
| | | 1967 | 3975 | 5 |
| | | 1977 | 4111 | 4 |
| 3 | Nong Khai (Thailand) | 1992 | 2791 | 120 |
| | | 1987 | 3552 | 12 |
| | | 1989 | 3665 | 9 |
| | | 1989 | 3716 | 8 |
| | | 1972 | 3811 | 7 |
| | | 1979 | 3876 | 6 |
| | | 1977 | 4052 | 1 |
| | | 1998 | 4026 | 4 |
| 4 | Nakhon Phanom (Thailand) | 1992 | 4378 | 250 |
| | | 1987 | 5040 | 48 |
| | | 1988 | 5291 | 28 |
| | | 1977 | 5403 | 23 |
| | | 1967 | 5841 | 11 |
| | | 1957 | 6157 | 7 |
| 5 | Mukdahan (Thailand) | 1992 | 5256 | 100 |
| | | 1977 | 5407 | 73 |
| | | 1998 | 5787 | 33 |
| | | 1987 | 6008 | 22 |
| | | 1967 | 6828 | 7 |
| 6 | Pakse | 1998 | 6835 | 80 |
| | | 1992 | 7128 | 50 |
| | | 1977 | 7336 | 35 |
| | | 1988 | 7189 | 33 |
| | | 1987 | 7742 | 20 |
| | | 1968 | 8159 | 12 |
| 7 | Stung Treng (Cambodia) | 1998 | 9403 | 120 |
| | | 1988 | 9689 | 90 |
| | | 1977 | 10360 | 40 |
| | | 1987 | 10676 | 25 |
| | | 1959 | 11255 | 14 |
| | | 1968 | 11326 | 12 |

Source: MRC, Flood and Drought Report of the Mekong Basin, Flood Forum 2003.

Not surprisingly, the highest average temperatures are experienced in the most severe drought years of 1996, 1998 and 2003.

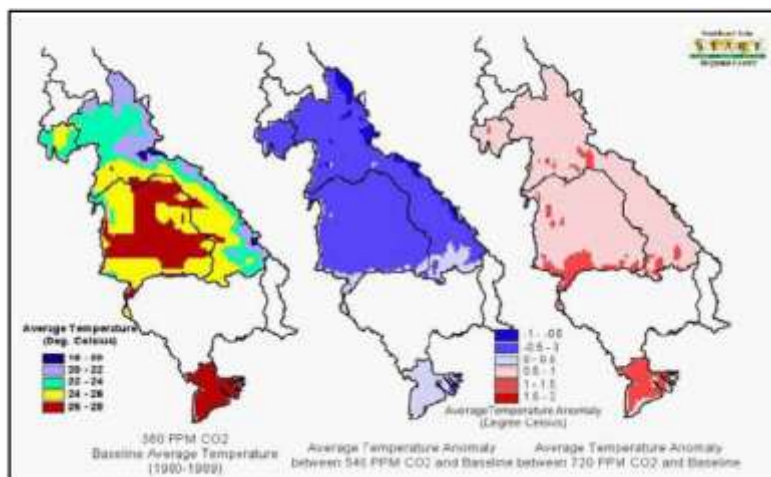
TABLE 5. The highest average temperature (°C) in each region of Lao PDR

| Region/year | 1996 (°C) | 1998 (°C) | 2003 (°C) |
|-------------|-----------|-----------|-----------|
| North | 27.9 | 29.9 | 28.8 |
| Central | 30.9 | 32.5 | 32 |
| South | 30.9 | 32.5 | 32 |

According to the CCAM climate change model used by the SEA START team (Snidvongs, 2006) the change of temperature used under this model will be within the range of 1-2C but the change in the number of annual hot and cool days will be prominent.

MAP “Hot Days”

FIGURE 3. Average temperature in the lower Mekong River basin (baseline-simulation) and comparison analysis to show future change under increasing CO₂ concentration



4. Economic impact of floods and drought periods

TABLE 8. Impacts of floods and drought in Lao PDR from 1966 to 1995

| Year | Details of Floods and Droughts | Cost of Impacts (US\$) |
|------|--|--------------------------|
| 1966 | Large floods (Vientiane, central and southern) | Inaccurate data |
| 1967 | Drought (Central and southern) | 5,200,000 |
| 1968 | Flood (Southern) | 2,830,000 |
| 1969 | Flood (Central) | 1,020,000 |
| 1970 | Flood (Central) | 30,000 |
| 1971 | Large flood | 3,573,000 |
| 1972 | Flood and drought | 40,000 |
| 1973 | Flood (Central) | 3,700,000 |
| 1974 | Flood (Southern) | 80,000 |
| 1975 | Drought | Data not available |
| 1976 | Flash flood | 9,000,000 |
| 1977 | Severe drought | 15,000,000 |
| 1978 | Large flood (Central and Southern) | 5,700,000 |
| 1979 | Flood and drought | 3,600,000 |
| 1980 | Flood | 3,000,000 |
| 1981 | Flood | 682,000 |
| 1983 | Drought | <50% of total production |
| 1987 | Drought | 5,000,000 |
| 1988 | Drought and crop pest pandemic | 4,000,000 |
| 1989 | Drought | 20,000,000 |
| 1991 | Flood and drought | 70,000 ha |
| 1994 | Flood | 36,382 ha |
| 1995 | Flood | 63,820 ha |

Source: DoP, Ministry of Agriculture and Forestry/National Disaster Management Office, 1996.

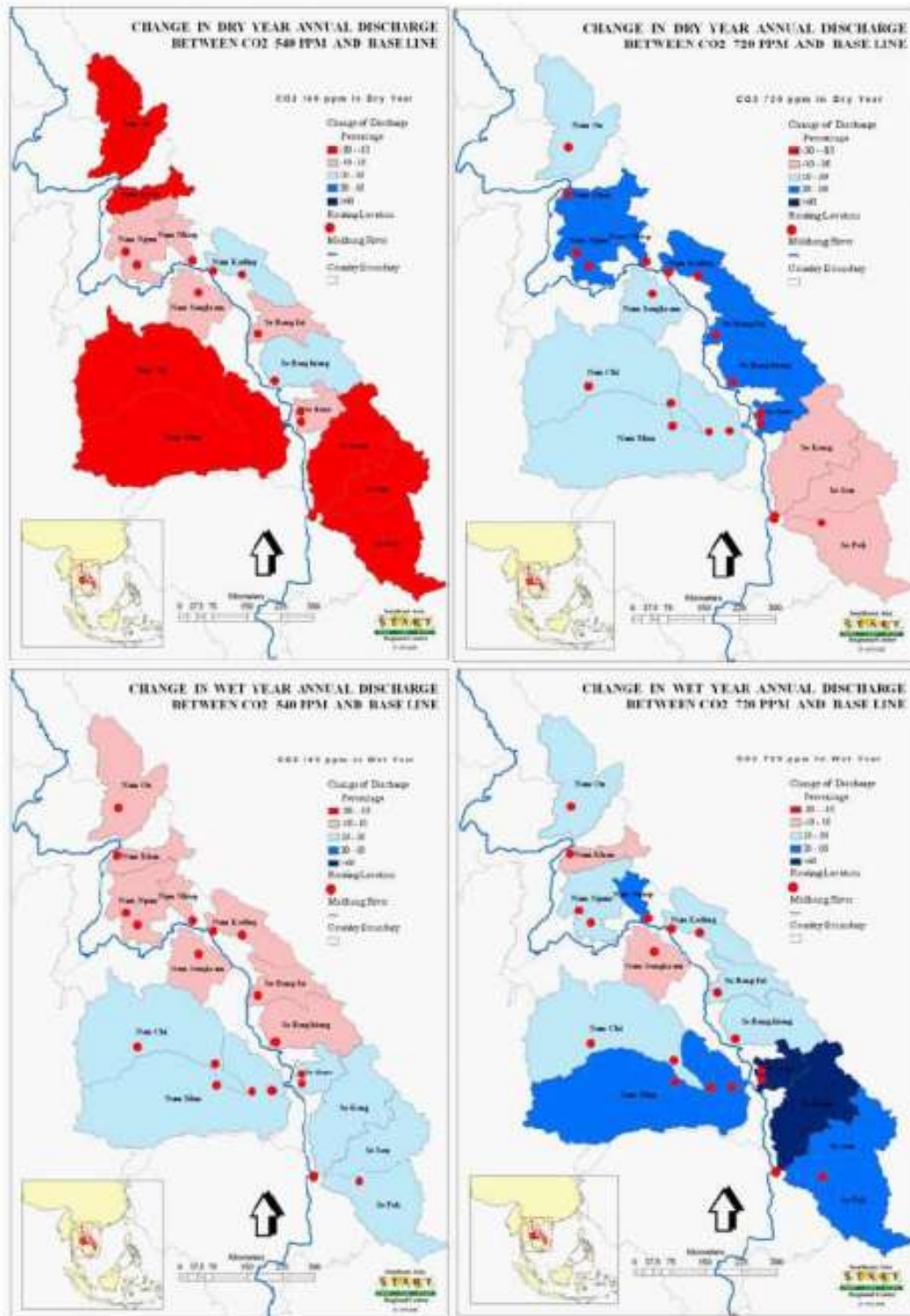
TABLE 12. Losses caused by serious drought in 2003

| The 2003 severe drought caused damages to 23,770 ha of rain-fed rice fields on the plain area and 11,670 ha of upland rice fields | | | |
|---|-----------|------------------|---|
| The degree of damage to rain-fed and upland rice fields in percentages | | | |
| No. | Damage | No. of districts | Names of districts and provinces |
| 1 | < 50% | 3 | Kwa (Phongsaly); Kaysetha (Attapeu); and Mounlapamok (Champasack) |
| 2 | 30 – 49 % | 4 | Sing and Nalae (Luang Namtha); Sanamxay (Attapeu); and Phu Koud (Xiengkhuang) |
| 3 | 20 – 29 % | 6 | Vieng Phukha (Luang Namtha); Namor (Oudomxay); Pak Ou, Nam Bark and Chomphet (Luan Prabang) and Kong (Champasack) |
| 4 | 10 – 19 % | 12 | Xay, Rah, Nga, Baeng, Hoon, Ngoy (Oudomxay); Paksaeng, Phonxay (Luang Prabang); Xiengkhoie (HuaPhanh); NongBok, Bualapha (Khammuane); and Phu Vong (Attapeu) |
| 5 | 5 – 9 % | 15 | Samphanh (Phongsaly); Namtha, Long (Luang Namtha); Luang Prabang, Xieng Ngeun (Luan Prabang); Viengthong, Samtai, Ad (Huaphanh); Phaxay (Xiengkhuang); Thakak, Hin Boune, Nakai, Xebangfai (Khammoune); Samakeyxay and Sanarm (Attapeu) |
| 6 | 3 – 4 % | 6 | Phongsaly, Mai (Phongsaly); Pakbaeng (Oudomxay); Mahaxay, Yommalath (Khammuane); and Pathumphone (Champasack) |
| Around 97,665 tons of rice grain output were lost and 274,000 persons were impacted | | | |
| 46 districts needed 58,600 tons of rice to consume within the year | | | |

Source: Ministry of Agriculture and Forestry, 2003.

CHARTS Scenarios

FIGURE 7. Predicted change in discharge of the Mekong River tributaries in Lao PDR and Thailand under different climate scenarios (dry year: baseline, 540 & 720 ppm CO₂; wet year: baseline, 540 & 720 ppm CO₂)



Source: SEA START technical (Snidvongs, 2006).

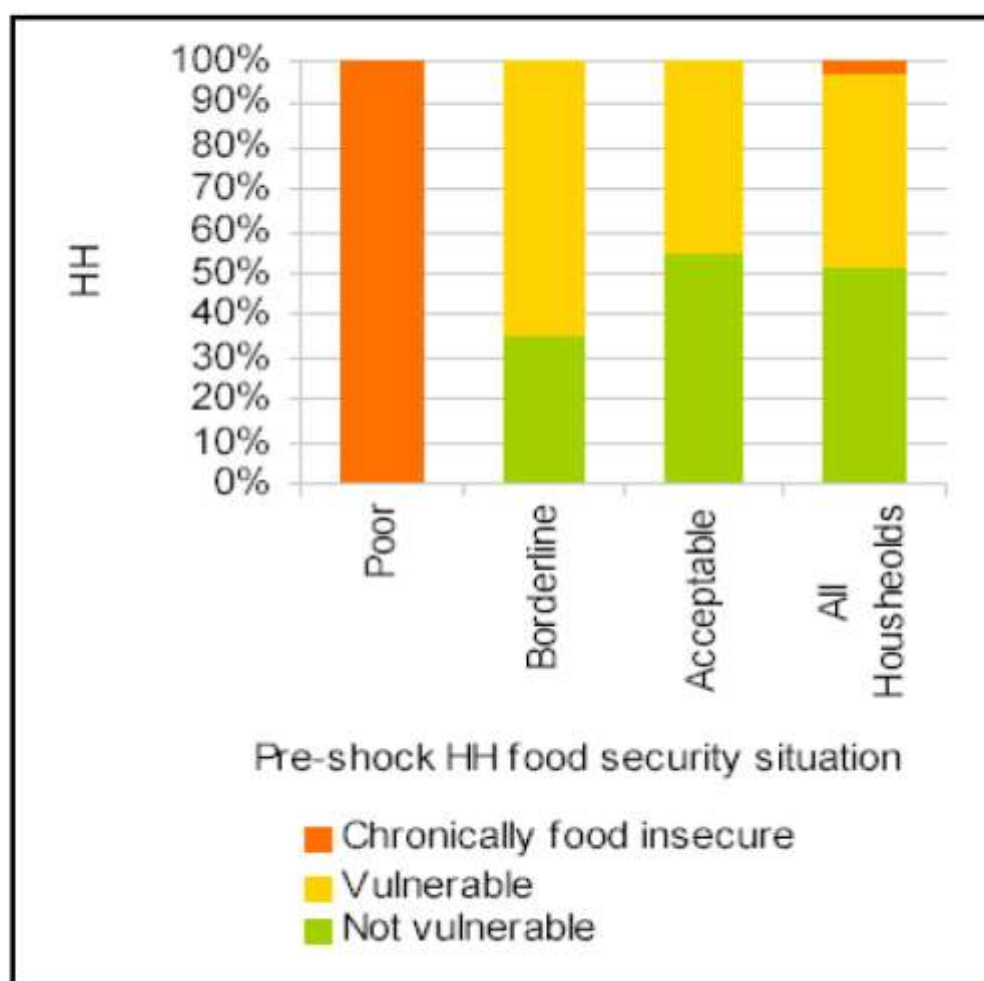
5. Type and frequency of natural disasters and individual vulnerability of the Lao PDR population

TABLE 15. Summary of natural disasters in Lao PDR from 1966 to 2002

| Type of event | Report number of events | Total number of people effected |
|---------------|-------------------------|---------------------------------|
| Flood | 16 | 3,244,150 |
| Epidemic | 7 | 19,929 |
| Drought | 5 | 4,250,000 |
| Wind Storm | 4 | 1,307,312 |

Source: OFDA/CRED International Disaster Database (EM-DAT) in WFP, 2007.

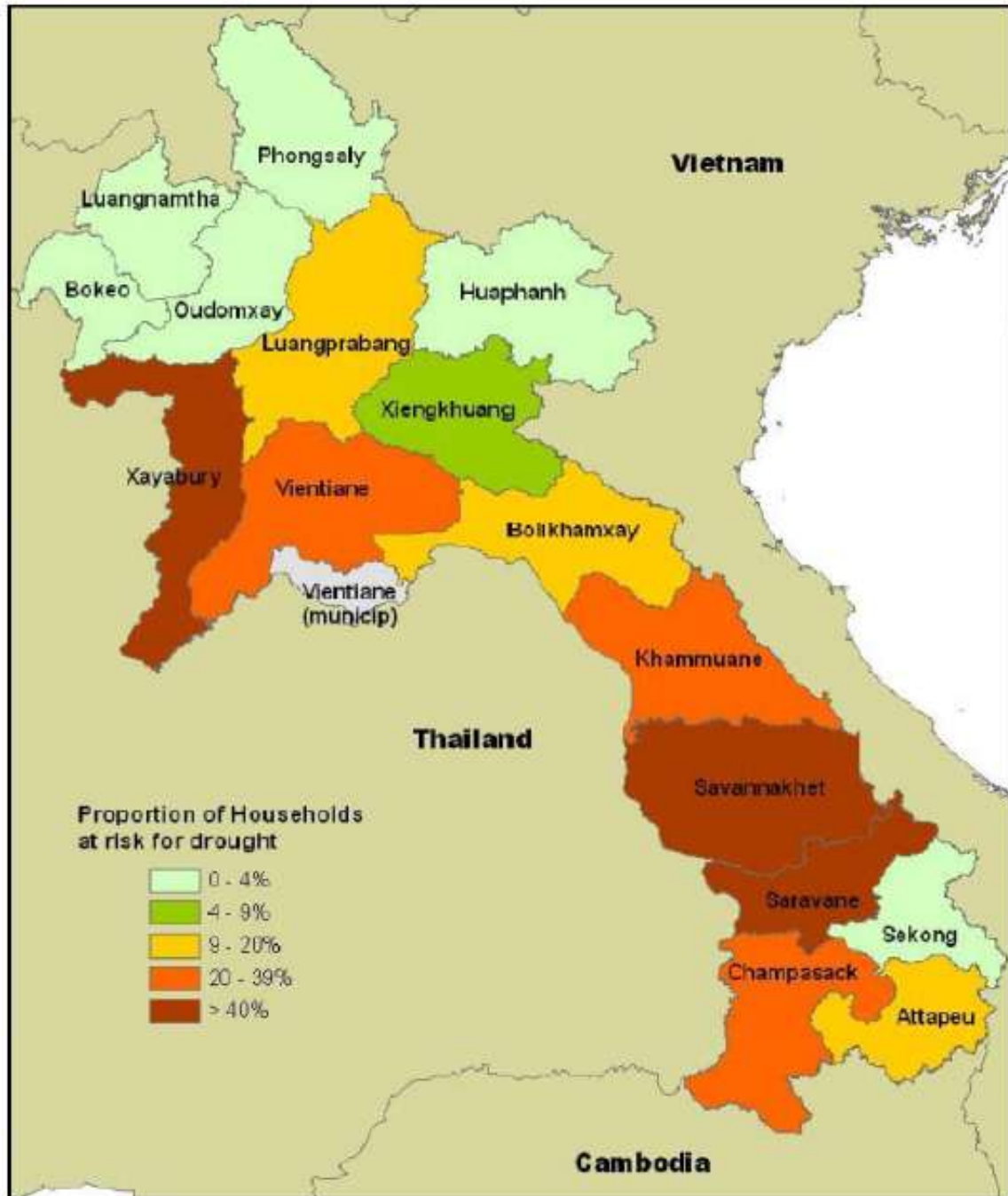
FIGURE 8. Vulnerability to becoming food insecure from drought in relation to pre-shock food security



Source: WFP Lao PDR, CFSVA Community Survey, 2006, in WFP, 2007.

MAP Lao PDR Vulnerability

FIGURE 9. Households in Lao PDR at risk of becoming food insecure because of droughts (excluding chronically food insecure)



Source: WFP Lao PDR, CFSVA Community Survey, 2006, in WFP, 2007.

6. Climate hazards and vulnerability of Lao PDR within the regional context

Economic and Environment Program for Southwest Asia (EEPSEA)
 22 Cross Street, #02-55 South Bridge Court, Singapore 048421
 Tel: 65 6438 7877, Fax: 65 6438 4844
<http://www.eepsea.org>

EEPSEA was established in May 1993 to support research and training in environmental and resource economics. Its objective is to enhance local capacity to undertake the economic analysis of environmental problems and policies. It uses a networking approach, involving courses, meetings, technical support, access to literature and opportunities for comparative research. Member countries are Thailand, Malaysia, Indonesia, the Philippines, Vietnam, Cambodia, Lao PDR, China, and Papua New Guinea.

EEPSEA is supported by the International Development Research Centre (IDRC), the Swedish International Development Cooperation Agency (Sida), and the Canadian International Development Agency (CIDA).

Reference: EEPSEA publications are also available online at <http://www.eepsea.org>

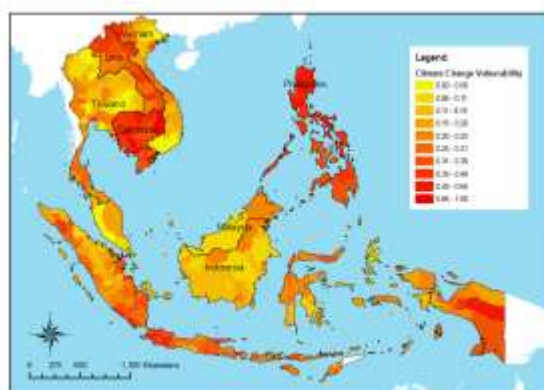


Figure 6. Climate change vulnerability map of Southeast Asia

As indicated in the NAPA data, Lao PDR will experience multiple climate hazards; most prominently floods and drought periods, but also landslides, soil erosion and occasional tropical cyclones may have to be considered in parts of the country.

Country vulnerability:

“The degree to which a system is susceptible to, or unable to cope with the adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity” (IPCC 2001, p.995). Vulnerability can thus be defined as a function of exposure, sensitivity, and adaptive capacity, or:

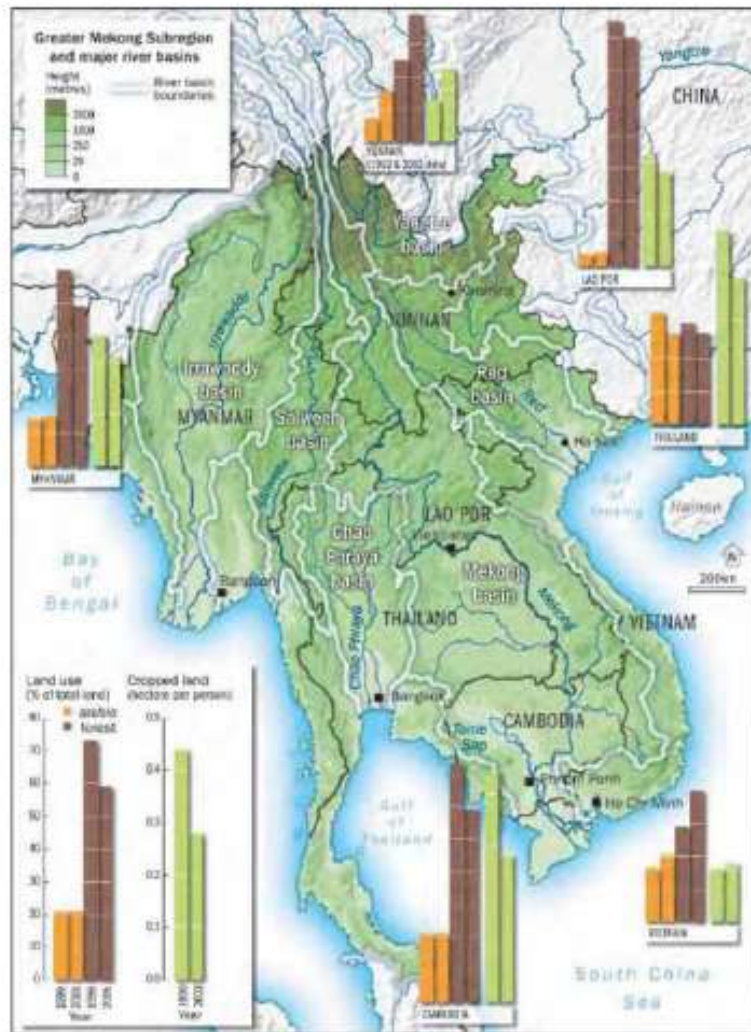
$$\text{Vulnerability} = f(\text{exposure, sensitivity, adaptive capacity})$$

Seen as a function of exposure, sensitivity and adaptive capacity, Lao PDR ranks as one of the most vulnerable countries in South East Asia.

7. Other analyses related to agriculture, natural resources management and demography

MAP Land Use Lao PDR

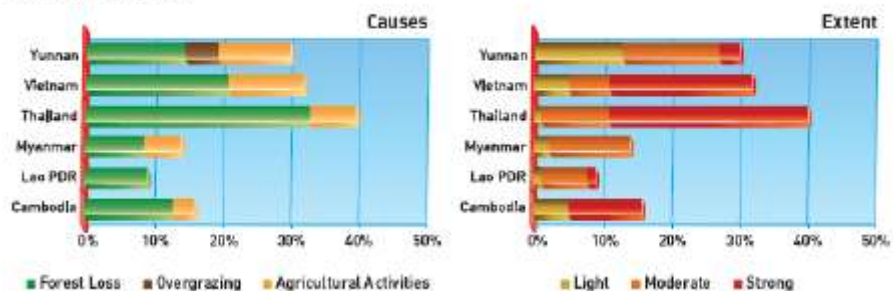
River and Land-use characteristics of the Greater Mekong Subregion
 Source: Greater Mekong Environment Outlook (UNEP and TEI 2007)



Existing Lao PDR land use through forest is one of the country’s main assets in climate change matters, but threatened by different competing usages. (See also second National Communication on Climate Change presently under preparation.)

Map Land Degradation

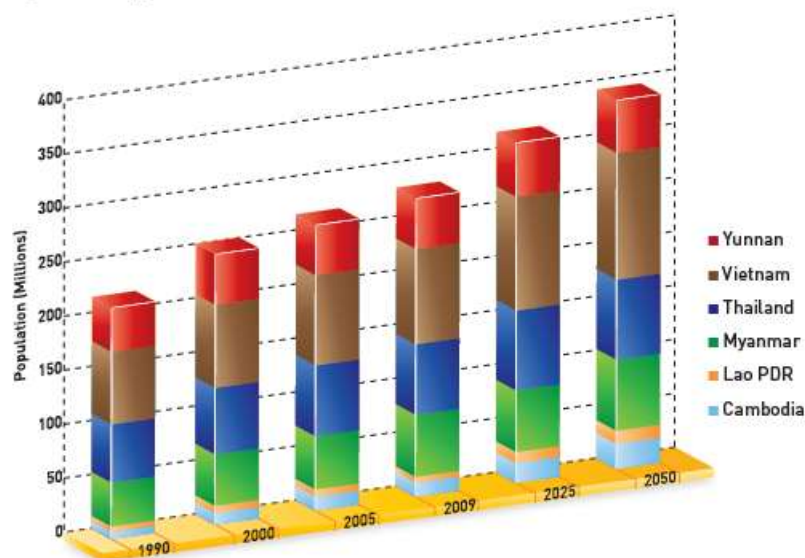
The extent and causes of land degradation in the GMS
 Source: UNEP and TEI 2007



Population growth is a dynamic driven force behind land use, conversion of land, de-forestation, and general environmental degradation, in Lao PDR often affecting micro climates and local climatic circumstances.

Population growth across the GMS

Source: FAOSTAT, 2009; World Gazetteer, 2009. Note: Yunnan figures calculated from total population for China and apportioned using the Yunnan population from 2009



8. Conclusions

1. There is a consistent chain of evidence at global, regional and local level that indicates that Climate Change takes place in Lao PDR (as in the whole of the Mekong river basin), and will have - gradually or ad-hoc – impacts on the country in general, and the agriculture sector specifically.
2. Most certainly the rainfall pattern will change extensively and pose a specific challenge to water management, agriculture, disaster management.
3. Because of its geographic features the county is exposed to multiple climate hazards.
4. Economic and demographic developments will influence the country's adaptive capacity and overall resilience of the agricultural sector.
5. Given the level of poverty in the country (especially in rural and remote areas) the ongoing and anticipated changes may strike such poor groups beyond the level of any adaptation option.
6. Some groups of the society, some agricultural production systems, or some geographical areas, may benefit from the anticipated changes of the climate.
7. Balancing the assumptions 6 and 7 is a serious task and mission for political powers, government and administration.
8. All (desk-study) conclusions mentioned above have been qualitatively confirmed by local agriculture and planning professionals, and in direct assessments on the ground, undertaken by the PPG team in April and May 2010.

Annex 2: Summary of Stakeholder Consultation during PPG

PPG Team

The wider PPG Team undertaking the consultations consisted of:

- Dr. Bounthong Bouahom, DG of NAFRI, Vientiane
- Khamphone Mounlamai, NAFRI Counterpart Coordination, Vientiane
- Dr. Kinnalone Phommasack, NAFRI Counterpart Coordination, Vientiane
- Manfred Staab, Lead Consultant, Vientiane
- Phoutsakhone Ounchit, National Consultant Agriculture, Vientiane
- Supported by
- Bruno Cammaert, Manager, UNDP Environment Unit, Vientiane
- Singha Ounniyom, UNDP Programme Analyst, Vientiane
- Arup Rajouria, UNDP Climate Change Specialist WREA CC Office, Vientiane
- Angus Mackay, UNDP Regional Technical Advisor, Bangkok



Bilateral consultation throughout the PPG process

The PPG Phase (March to July 2010) included a series of bilateral meetings between members of the PPG Team and representatives and resource persons from other projects, GoL agencies, NGOs and other organizations.

Outcome: During these meetings CC related information, ideas and thoughts were collected; opinions on useful approaches and strategies were exchanged, and the evolving NAPA follow-up project structure was presented. A table with the contacted professionals and resource persons is under Annex 2.1.

Information and consultation session at NAFRI Vientiane on 25th of March 2010 (WS1)

A first public information and consultation session on the NAPA follow up project was organized on 25th of March 2010 at the NAFRI conference room in Vientiane.

Outcome: The session informed potential stakeholders about the project PIF. Initial guidance and useful advice related to PPG process, stakeholder identification, strategy and approach, technical issues, and site selection was gathered by the team.

A listing of participants and main recommendations from this session are under Annex 2.2.

Regional consultation workshop South at PAFO Savannakhet on 28-29th of April 2010 (WS2)

A regional consultation workshop for a NAPA follow-up project was held on 28-29 April 2010 at the PAFO conference room, Savannakhet . The focus was on pre-selection of suitable project sites in the south of Lao PDR.

Outcome: A number of agricultural issues probably related to Climate Change were identified and 10 potential project sites for component 3 were suggested in 10 districts in 5 provinces:

1. Sanhamxay and Phouvong district (Attapue)
2. Lamam district (Xekong province)
3. Outhoumphone and Champhone district (Savannakhet)
4. Khongsedone, Toumlanh and Taoauy district (Saravanh)
5. Sanasomboune and Mounlapamoke district (Champasack)

The pre-selection followed criteria and indicators laid out by the PPG team. List of participants, findings and observations eventually related to climate change, and other information are included in under Annex 2.3.

Main findings South (observations) probably associated to Climate Change as a contributing factor:

- Temperature increase from 36 °C in the past to 43°C currently
- Shorter period of raining seasons
- Decreasing amount of rainfall : in the past 1.200 – 2.000 mm, now 1.000-1.500 mm
- Migration of villagers to other places because of flood and drought
- Decreasing agricultural yield – used to get 3.5 T/ha, presently only 1.5 T/ha (rice paddy)
- Shrinking water resource, very low level of water in streams/canals
- Lack of water management in the villages
- Livestock increasingly having diseases after flood events
- Rice quality poor because of increasing fungi/diseases

National planning workshop on central level at Lao Plaza Vientiane on 18th-19th of May 2010 (WS3)

The national planning workshop was organized to present the project framework, to identify core problems/causes, strategies/desired responses and potential stakeholders on national level. Goal was to provide inputs for the eventual revision of the existing project Result Framework (logframe).

Outcome: A better understanding of the project framework among key stakeholders was achieved, an analysis of project situation was undertaken, potential strategies and national stakeholders were identified. Inputs for a revised project Result Framework were provided and valuable recommendations for project design, implementation and management received.

The list of participants and the results of the different planning sessions are documented under Annex 2.4.

Regional consultation workshop North in Xayaboury province on 17th -18th of June 2010 (WS4)

A regional consultation workshop for a NAPA follow-up project was held on 17th -18th June 2010 at the PAFO conference room, Xayabouly . The focus was on pre-selection of suitable project sites in the north of Lao PDR.

Outcome: A number of agricultural issues probably related to Climate Change were identified and 10 potential project sites for component 3 were suggested in 10 districts in 4 provinces:

| No | Location |
|---------------------------|--|
| Xayabouly Province | |
| 1 | Botane District - Kumban Namphou, Kumban Nong Phak Bong |

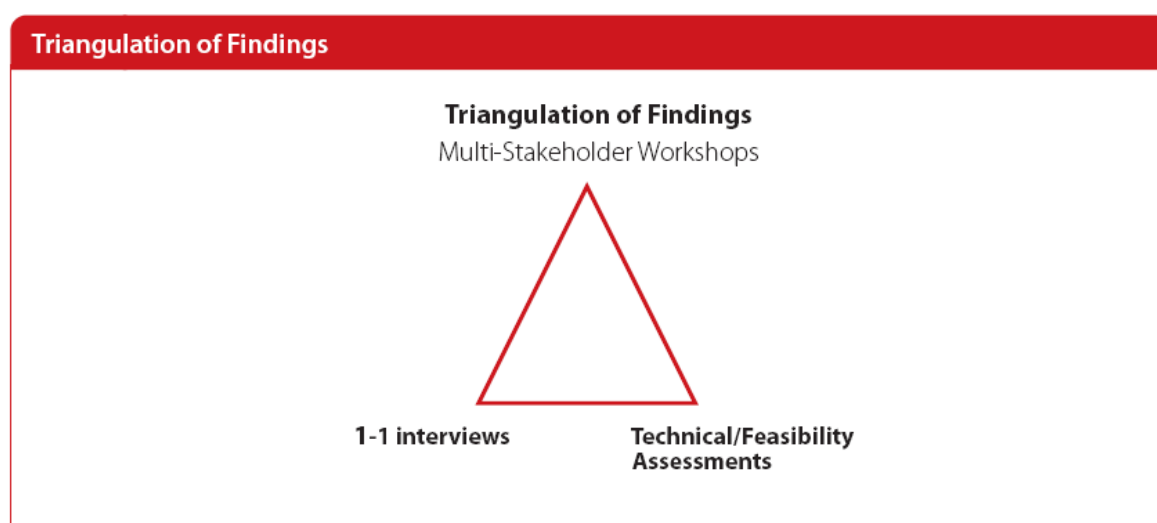
| | |
|-------------------------------|--|
| 2 | Phieng district - Kumban Meung Pheing, Kumban Naxing, Kumban Phonesaath. |
| 3 | Pak Lai district - Kumban Pha kea, Kumban Bounhma, Kumban. |
| Luang Nam Tha Province | |
| 4 | Nam Tha district - Poug, Pasak, Nanoy and Mai villages, Luang, Donekhoune, Tha Or, and Mai villages |
| 5 | Long district - Luang Pha Kha, chom Chaeng, Aisaeng |
| Oudomsay province | |
| 6 | Xay district - Kumban Nam Bak |
| 7 | La District - Viengkham, Donsaath, and Tang Ngaey viilages |
| Luangprabang Province | |
| 8 | Xieng Ngeun district - Kumban Sobjune |
| 9 | Luang Pra Bang district - Kumban Kok Van, and Kumban Xaen Kha Lok |
| 10 | Nam Bak district - Kumban Nayang |

The pre-selection followed criteria and indicators laid down by the PPG team. List of participants, findings and observations eventually related to climate change, and other information are included in under Annex 2.5.

Main findings North (observations) probably associated to Climate Change as a contributing factor

- Shorter period of raining seasons
- Significant soil erosion, accelerated by natural disasters
- Expansion of diseases (crops, livestock)
- Shrinking water resource
- Very low level of water in streams and canals
- Insufficient water resource that does not match needs of the farmers
- Poor water management
- Decreasing amount of rainfall such: in the past 1.607 mm, now 1.395 mm
- The soil quality is poor and this is one main reason for low yield

Annex 2.1: Resource Persons PPG



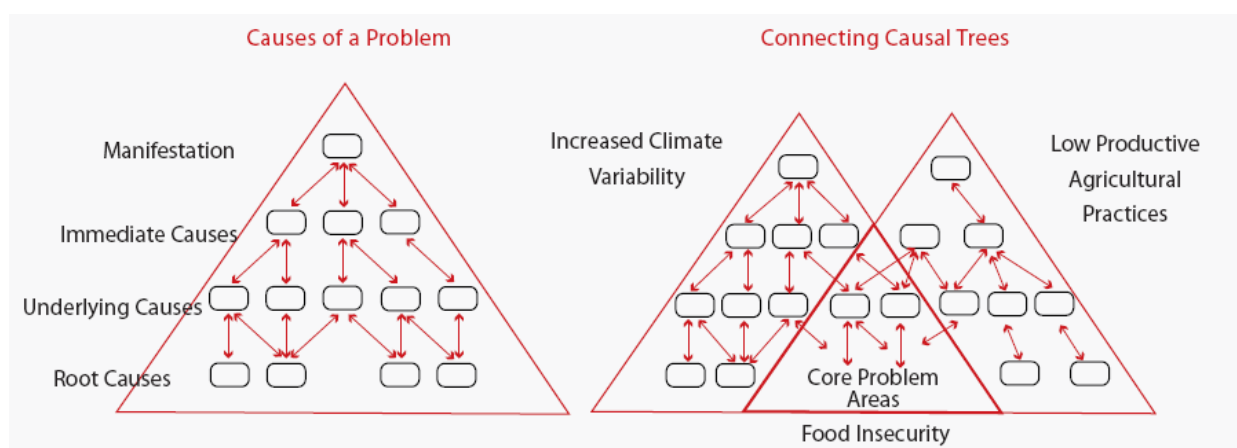
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| Mr. Morakot Vongxay | Chief for UN system, | DIC/MPI |
| Mr. Viriya Pounsiri | Technical Officer for UN system | DIC/MPI |

| | | |
|-------------------------------|--|--|
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Annex 2.2: Consultation Session NAFRI 25th of March 2010 (WS1)

PPG Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts (2011-2015)

Friday, March 26, 2010



**Comments received during discussion in information and consultation session
on 25th March 2010 (not prioritized)**

PPG Process

- Online discussion group and library with digital files related to climate change in Lao PDR is available through www.laofab.org
- Plenty of reference materials are available at URDP
- Too many agencies included in the project may lead to poor coordination
- Component 2 should be clearer on who is doing what
- Co-finance, and eventual re-design related to it, is a time-consuming process
- Co-finance could eventually arranged smoothly through letters of agreements between different projects
- Timetable for PPG is very short
- Project concept may put too much pressure on lower levels
- Activities of PPG team have to be guided by what is realistically possible within the limited time available to produce the FSP
- All participants are requested to complete the forms and return to PPG team
- Reference materials for the component 1 are available at NDMA
- Farmers should be involved at the provincial (district) consultation workshop

Potential Stakeholders

- Association of Conservation Agriculture should be engaged in the project

- Capacity building component 2 should embrace a wider range of actors and institutions
- CC information and knowledge management should include the agricultural colleges
- Phasing out of URDP may offer options for NAPA follow up (in terms of programme continuity and co-financing)
- NDMA happy to share the information what they have

Strategy and Approach

- Climate change should be seen as an exacerbating element in the general context of environmental degradation
- Adaptation strategies should focus on flood and drought disaster management
- Socio-economic conditions, prices, markets etc should be considered, “green agriculture policy” of MAF may help
- Component 3 should be treated as a NRM strategy, combining NRM and increased agricultural productivity
- Component 3 should be more considered on adaptation and long term sustainable
- An eco-system approach should be guiding the strategies, reference to wetlands, links between livelihood and environmental degradation, sustainable use of wildlife and wild fruits / crops, significance for food security
- Project should concentrate on agriculture and food security, agri-economics and agricultural strategy development
- Component 1 and 2 could lead to the development of an early warning system based on the long term monitoring of specific climate indicators.
- Project’s organizational structure to reflect wider stakeholder participation at provincial and district levels (Disaster Management Committees).

Technical Issues

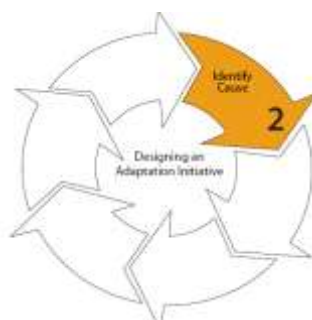
- High level of resilience among the existing farming systems and existing coping (adaptation/mitigation) mechanisms– these should be documented, stabilized, protected and improved
- Indigenous knowledge and local farmers should be included in the consultation process
- Impact on groundwater level, general water levels should be investigated
- Existing techniques and technologies coping with flood and drought, existing development of resistant crops should be understood
- Resilience in the existing farming systems are more different “fall-back strategies” of the farmers. This diversity of options should be maintained.
- Project design should include a mechanism for an early warning system
- Agro-forestry could be considered as a viable option under component 3
- Capacity building to Lao staff

Potential sites

Should be more considered in existing drought area in Laos: Luangnamtha Province, Vientiane Province, Borlikhamsay Province and Khammouan Province (From NDMA)

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Annex 2.3: Regional consultation South, Savannaketh, 28-29th of April 2010 (WS2)**Minutes of the 2nd Workshop (Draft)****Regional Consultation Workshop on Full Size Project Document Formulation for NAPA Follow Up Project**

Meeting date and time: 28-29 April 2010, 08:30-16:30

Meeting place: PAFO in Savannakhet Province

Participants: The workshop aims specifically on participants with long-term professional experience from five provincials: Savannakhet, Salavanh, Champasack, Xekong and Attapue province (e.g. PAFO, DAFO, DDMO etc) or long-term residential experience in concerned districts, kumban and villages. Indigenous representatives and farmers / villagers were invited to attend also.

Objective: In the planning phase of the project development process the meeting will bring together relevant stakeholders from GoL, UN, NSOs (NGOs) and other parties. The project framework (especially component 3) will be presented and stakeholders are asked to assist in identification of suitable project locations according to defined criteria.

Session outline:**➤ Day 1: 28 Apr 2010**

1. Welcome and introduction of the workshop by Mr. Sysavang Vonghachack (10 minutes)
 - Introduce NAPA follow up project
 - Climate change adaptation in Lao PDR
 - Gave briefly the project's components
 - Gave briefly the workshop's objective
2. Presentation of NAPA Follow Up project by Mr. Khamphone Mounlamai (5 minutes)
 - History of NAPA Follow Up project
 - The PPG team
 - Strategy on CC in Lao PDR
 - Projective objective and components
 - Budget
 - NAPA Follow Up/ FSP phases

- Milestone
 - Project schedule
 - Inception phases
 - Participatory consultation phases
 - Design phase FSP input
 - Field identification phases
 - Review consultation phases
 - Finalization and approval phases
 - Implementation arrangements
 - Project structure – draft
3. Presentation of Criteria for Identification of Project Sites and explanation of the group works by Ms. Phoutsakhone Ounchith (25 minutes)
- Presentation of the output of each project’s components
 - Presentation of four criteria for site selection: Natural indicator, human indicator, Agriculture indicator and information indicator

4. Working groups “ part 1” – Facilitated by Dr. Kinnalone Phommasack and Ms. Phoutsakhone Ounchith (75 minutes)

This exercise was focused on the following issues:

- 1) Natural indicators
- 2) Human indicators

Participants were divided to 5 groups: Savannakhet group, Saravanh group, Champasack group, Xekong group and Attapue group. The names of the members of each group, see at appendix

5. Working groups “part 2” – Facilitated by Dr. Kinnalone Phommasack and Ms. Phoutsakhone Ounchith (60 minutes)

This exercise focused on the following issues:

- 3) Agricultural indicators
- 4) Indicators for information, analysis

The participants were divided to 5 groups: Savannakhet group, Saravanh group, Champasack group, Xekong group and Attapue group. The names of the members of each group see in appendix.

6. Presentations to audience by member of groups (60 minutes)

The result of this activity of each group, see appendix xxx

7. Closure and summary the day1 by Mr. Khamphone Mounlamai (5 minutes)

- Summary day 1
- Thanks the group for their participants
- Invite the participants to welcome party

➤ **Day 2: 29 April 2010**

8. Working group “part 3” – Facilitated by Dr. Kinnalone Phommasack and Ms. Phoutsakhone Ounchith (90 minutes)
- This exercise was focused on following issues:
 - 5) Marking suggested locations by name on the map
 - 6) Justifications for each selected site in line with criteria
 - 7) The site of the selected sites (number of beneficiary household)
 - It was divided to 2 groups. See Appendix xxx
9. Presentations to audience by member of groups (30 minutes)
- The result of this activity of each group, see Appendix xxx
10. Working group “part 4” – Facilitated by Dr. Kinnalone Phommasack and Ms. Phoutsakhone Ounchith (90 minutes)
- This exercise was focused on following issues:
 - 8) Stakeholder analysis
 - It was divided to 2 groups. See Appendix xxx
11. Ending of Workshop by Mr. Khamphone Mounlamai
- Gave briefly summary of the workshop
 - Thanks to the participants

Agenda

Day1: 28 April 2010

| Activities | Who | Time |
|--|------------------------------------|-------------|
| Registration | Ms. Phatsany | 08.30-09.00 |
| Introduction of participants | Dr. Kinnalone | 09.00-09.15 |
| Opening of Workshop: Climate Change and Lao PDR Strategy | DG of NAFRI /Provincial Authority | 09.15-09.25 |
| Presentation of NAPA Follow Up Project | Mr. Khamphone | 09.25-10.00 |
| Group photo following by Coffee break | | 10.00-10.15 |
| Presentation of 4 Criteria for Identification of Project Sites | Dr. Kinnalone/ Ms. Phoutsakhone | 10.15-10.45 |

| | | |
|---|---------------|----------------------------|
| Working Groups (part 1) Working on following issues: Identification of location 1) Natural indicators 2) Human indicators | Team | 1045-1200 |
| Lunch | Ms. Kesone | 12.00-13.30 |
| Working Groups (part 2) Working on following issues: 3) Agricultural indicators 4) Indicators for information, analysis | Team | 13.30-1430 |
| Coffee break | | 1430-1445 |
| Presentations to audience by member of groups Discussion | | 1445-1545 1545-1625 |
| Summary and conclusions for day 1 | Mr. Khamphone | 16.25-16.30 |
| Welcome Party/Dinner | Ms. Kesone | 18.30 |

Day 2: 29 April 2010

| | | |
|--|------------------------------------|-------------|
| Registration | | 08.30-09.00 |
| Overview working group (part 3) | Dr. Kinnalone/ Ms. Phoutsakhone | 09.00-09.15 |
| Working Groups (part 3) Working on following issues: 5) Marking suggested locations by name on the map 6) Justifications for each selected site in line with criteria | Team | 09.15-10.15 |
| Coffee break | | 10.15-10.30 |
| Continue working groups (part 3) | Team | 10.30-12.00 |
| Lunch | | 12.00-13.30 |
| Presentation and discussion | | 13.30-14.45 |
| Coffee break | | 14.45-15.00 |
| Presentation of stakeholder analysis | Dr. Kinnalone/ Ms. Phoutsakhone | 15.00-15.15 |
| Working groups (part 4) Working on following issue: | Team | 15.15-15.45 |

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| 7) Stakeholder analysis | | |
| 8) The site of the selected sites (number of beneficiary household) | | |
| Presentation to audience by member of groups | | 15.45-16.15 |
| Summary and Conclusions | Mr. Khamphone | 16.15-16.25 |
| Wrap up/Closure | DG of NANRI /Provincial Authority | 16.25-16.30 |

The result of the activities in day 1 (28 Apr 2010)

4 Criteria (Day1)

| No | Natural indicator | Human indicator | Agriculture indicator | Indicators for info/ Replication |
|-------------------------|---|--|--|--|
| Attapue Province | | | | |
| 1 | Temperature increasing from 36 °c in the past - 43°c in current. | In Phouvong district, people get diseases such as red eyes, diarrhea, spots | Agriculture and livestock are not expanding | The road in Phouvong and Sanamxay district are not comfortable to travel in raining season |
| 2 | Rain comes to the wrong season/time, the amount of rain decreases from 1.200 - 2.000 mm to 1.000-1.500 mm, but flooding | Expanding of village, houses, changing agriculture area from paddy rice / low land rice field to farm or upland rice field | Not enough of agriculture area, some areas in Sanamxay district are in danger to become flooded. The rice field areas are about 4.042 ha (in Sanamxay district) and 360 ha (in Phouvong district). | Limited development information because these areas are very rural / difficult area. No projects and development in this area, and lack of technicians for support and development |
| 3 | Very large expanding floods in Attapue province since 1996 - 2009 | Villagers in Sanamxay, Saysattha and Samakkhy district don't have places to live, lack of food, getting diseases, the houses were destroyed | Agriculture production is damaged every year. Plateau area is damaged and eroding. Disease of animals is spreading on a dangerous level in Phouvong and Sanamxay districts. | Phouvong and Sanamxay district are very much affected by droughts and floods |
| 4 | The expanding erosion areas are on the bank of the Xekong river and the Xekamhan river where people living | In flooded area there is soil erosion, the houses are broken and destroyed in Sanamxay, Saysattha and Samakkhy districts. Migration of | Soil erosion in agriculture areas, decrease of production of agricultural goods in locations near the Xekong river | Should change the farming system by using new techniques. Irrigation needed, then they can do agriculture in the dry season, and they also need training. |

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| | | villagers. | | |
| 5 | Natural disasters have increased since 1996. The latest event is Ketsana on 29/9/09; heavy storms and high level of floods | Migration of most of the people who lived near the Xekong river, the Xekamhan and Kong rivers because of flooding | Agriculture areas are flooded, people have no income, lack of rice, rice production decreased from 3,5T/ha to 1,5 T/ha. Animals (cattle, chicken...) died, and diseases of animals are spreading on dangerous level in Phouvong and Sanamxay districts | Request the funding/help from donors, private businesses, GoL. Proposed project: growing rice, growing vegetable, livestock and irrigation, natural conservation etc. |
| 6 | Natural resources are destroyed; plants and animals getting diseases or are growing slowly, migration of wildlife. Forest is destroyed because of the illegal tree-cutting and agriculture in the forest. | Lack of food in their livelihood area. More hunting and fishing for their livelihoods, and slash and burn agriculture. | Limitations to grow vegetables or to do agriculture because the agriculture area is smaller because of floods (in Phouvong and Sanamxay districts) | |
| Champasack Province | | | | |
| 1 | Temperature increasing. Lots of sunshine | People get allergies and are sick because of temperature changing | Agriculture and livestock are not expanding | The roads are difficult in the raining season |
| 2 | Rain comes in the wrong season/time, the amount of rain is high. | People now use air conditioner in their houses for making it cooler | Agriculture areas are small | Lack of improved production information |
| 3 | Flood and drought disaster. Drought: Soukhouma and Mounlapamok district. Flood: Xanasomboun district | People do not have a place to live because their houses were destroyed by disaster | The agriculture production affected. In the plateau area production is damaged by insects. The agriculture areas are eroding. | Agriculture goods are damaged by drought and flood |
| 4 | The Mekong level is low and a lot of sand/beach appears in the bed | Soil erosion in flood areas | Soil erosion in agriculture areas, and decrease of production | Should change the system by using technology. Irrigation, for agriculture in dry season, and also get |

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| | | | | training. |
| 5 | Affected by Xangsan and Ketsana typhoon | Most of people moved to another place for preventing flood events | Agriculture areas were flooded, people have no income | Request the funding/help from donors, private businesses, GoL. Proposed project: growing rice, growing vegetable, livestock and irrigation, natural conservation etc. |
| 6 | Natural resources are destroyed, plants and animals get diseases or growing slowly, migration of wildlife. Forest is destroyed because of the illegal cutting of trees and agriculture in the forest | Not enough agriculture areas. More hunting and fishing for their livelihood, and slash and burn agriculture | Limitations to grow vegetables or o agriculture, agriculture areas are smaller because of floods | |
| Savannakhet Province | | | | |
| 1 | Temperature increasing from 38 °C (5-10 years ago) to 40-42°C currently. Dry season is longer than raining season. | Livelihood changing for those dependent on natural resources. Poverty increasing and not enough rice for villagers who live near flooded area | The agriculture activities are limited / decreasing when drought and floods come. Quality and quantity of production decreases 30-50% through drought and floods | Access all seasons, but it will be difficult when flooded |
| 2 | Rain decreasing, compared with the last years, the rain comes late. | Livelihood changing, people moving to another place/migration, job changing. | Decreasing water resources, not enough water, and ground water level decreases. | PAFO office in district and good communication system. |
| 3 | Some villages in Chomphone district are flooded, and the rice fields near the river are flooded. In Outhoumphone district is drought | Flooded area: Chomphone district - farmer do grow dry season rice instead of raining season rice. Drought area: no rice production during raining season, and no possibility for dry season rice. | More soil erosion on the banks of the Xe Chomphone river. Soil quality not good: salted soil, lack of nutrients in the soil. | Meetings with ethnic groups in district are not a problem. |

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| 4 | The soil at the banks of the Xe river is eroding. Storage ponds in wetlands, streams have more sediment. | | | The farmers can demonstrate well after training, and they are happy and willingness. |
| 5 | Disasters: storms and floods (dry season storms). People were killed and lost property through storms and floods | | | GoL and doner projects, NGOs came to help during desaster: WVL, Fida international, DIDM |
| 6 | More industrial land use or agri-business land use, e.g. sugar cane, rubber trees. Forest is destroyed, wildlife, biodiversity decreasing | | | |
| Saravanh Province | | | | |
| 1 | Increase of temperature to about 39 - 40 °C. | Migration into forests by some people in Taoauy and Samouay district . Some people in Lakhonepheng and Khongxedon district go to work in Thailand | Low yields every year because of lack of technology. The yield in the raining season is about 2,5T/ha , and in the dry season is about 3,2 T/ha. | One can go to Taoauy, Samouay and Toumlanh districts by car only during dry season, during raining season one has to walk and ride a horse. |
| 2 | Decreasing rain. Raining season is shorter. | | Destruction of the forest near the river. Clearing land for agriculture | PAFAO has staff in each village cluster/Kumban, and they can easily collaborate. |
| 3 | Khongxedone district is flooded, and some other places in Saravanh, too. | Flood areas are Khongxedon, Toumlanh, Taoauy and Samouay districts. | Soil is of very low quality. | No conflicts in the villages (Toumlanh, Taoauy and Samouay districts) |
| 4 | Soil erosion event in Taoauy, Samouay, Laongam, Saravanh and Toumlanh districts. | | | |
| 5 | More natural disasters every year: Taoauy, Samouay, Laongam, Saravanh and Toumlanh districts. | | | |

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|------------------------|--|---|---|--|
| 6 | Natural resources are changing in Taoauy, Samouay, Laongam, Saravanh districts. Animals, forests, plants are damaged and number is decreasing. | | | |
| Xekong Province | | | | |
| 1 | Increase of temperature. | Migration to city | Decreasing rice production in drought area (Lamam district). Paddy rice (during raining season) used to get 3,5 T/ha but at present is only 1,5 - 2 T/ha (native variety). | Lamam district has full year access through all-weather road. But to the other districts one can go only dry season. |
| 2 | Decreasing rain amount. Raining season is shorter. | Changing of Livelihood in rural areas (Kaleum and Dukchueng district). People move to new places, in <i>Thateang and Lamam districts</i> migration to Oudomsomboun district ; | Not enough water for irrigation because the water level of Mekong is low. | PAFAO has staff in each village, and they are good to collaborate with, and reliable. |
| 3 | Expansion of drought area. 2/3 of area in Lamam district suffers damages from drought. | Lamam district is a drought area and the villagers are poor because their agricultural production is low. | Expansion of poor soil quality, because of drought, and using a lot of fertilizer and pesticides. | Conflict on land use because of population increasing. Agriculture areas are smaller because of growing industrial trees, building dams, and mining. |
| 4 | Soil erosion in Dukchueng and Kaluem district , located on the hill. | | | People are not ready to demonstrate and change for a new life (lifestyle), because they are lacking knowledge and skills. But they are prepared to learn new things. |
| 5 | Lamam and Kaluem districts experience natural disasters like forest fires, drought, and flash floods. | | | Improving production (ADB, IFAD). Forest and community developing project (World bank). Conservation project (WWF). Care international. |

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|---|---|--|--|--|
| 6 | Tree growth changing (fungi, slow growth). Migration of animals, diseases of animals. | | | |
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Suggested locations

| No | Name of location | Why is it suggested? | Size of target group |
|-----------------------------|--------------------|--|--|
| Group 1 | | | |
| Attapue province | | | |
| 1 | Sanhamxay district | Floods in raining season every year. Low rice yield. The rice is not of good quality, because of fungi/diseases. Not enough food for consumption. Migration of people to other place (in 9 villages). People don't have permanent job. Increase of temperature which from 37°C to 43°C. The Xepien national protection area is invaded / destroyed. | Area = 249.906 ha. 41 villages and 10 kumbans. Population = 28.339. Females = 14.296. Families = 5.091 hh. |
| 2 | Phouvong district | Ethnic groups = 90%. The district is located on the hill and the plateau. Main activities are low land rice and upland rice production. Area suffers damage from droughts and floods. Low rice yields down from 3 T to 1.5 T. Decrease of rain amount from 2000 mm in the past now 1000 mm. The peak of temperature 2010 was 43°C. Cattle, chicken (animals) are dead when flooded and also in the beginning of the raining season. | Area = 313.420 ha. 15 villages and 4 kumbans. Population = 11.132. Females = 5.688. Families = 2.394 hh. |
| Xekong Province | | | |
| 1 | Lamam district | Temperature increase to 43,9° C (peak temperature); in the past the peak temperature was 39°C. Decreasing rain amount. Changing of nature: decreasing NTFP and wildlife. Drought prone area with high level of poverty. Low of rice yield: in the past it was 3,5T/ha and now it is 1,5 T/ha). Not enough water for use because of reduced rain and poor water management. Animals have diseases (cattle, chicken...) every year. Soil quality is low. Increasing conflicts on land use. Farmers are willing to understand and learn new things. | Area = 193.358 ha. Low rice field = 2700 ha. Upland rice = 900 ha. Population = 29.700. 42 villages. Families = 4.545 hh. |
| Savannakhet Province | | | |

| | | | |
|-----------------------------|-----------------------|---|---|
| 1 | Outhoumphone | Drought every year. Short raining season. High temperature. Expansion of drought area. Lack of streams, ponds. Soil quality is not good. Low yield of rice. Changing land use from forest and rice field to grow industrial wood. Not enough food for feeding the cattle, chicken, animals; and animals get diseases. The farmers change to other jobs. | Area = 100.000 ha. Population = 89.003. 96 villages and 3 ethnic groups |
| Saravanh Province | | | |
| 1 | Kongxedon district | The agriculture areas in 36 villages at the Xelabume dam are flooded. | |
| 2 | Toumlanh district | Forests are changing. Water in the river is lower every year. Poor soil for agriculture. Temperature is high and not enough rain. | |
| 3 | Taoauy district | 2 raining seasons: Dec-Apr; and May-June. The coolest temperature was 7°C - 8°C. The forests have been destroyed by bombing; and many bombs and UXO in the soil. Temperature decrease to 38°C - 39°C. | |
| Champasack Province | | | |
| 1 | Sanasomboune | Flooded in the raining season because this district is located between the Xedon river and the Mekong river. Agriculture damaged by flooding. | Population = 67.329. Agriculture area = 15.300 ha. Flood area= 841 ha. |
| 2 | Mounlapamoke | This district is a drought area, because it is located on the plateau. Soil quality is not good for agriculture. People do not have enough water for their consumption. | Population = 46.887. Area = 7.742 ha |
| Group2 | | | |
| Savannakhet Province | | | |
| 1 | Outhoumphone district | Drought every year. Expansion of drought area. Soil is not of good quality. Low agriculture yield. Clearing land of forests and rice fields to grow sugar cane and rubber trees. | Area = 100.000 ha. Population = 89.003. 96 villages and 3 ethnic groups |

| | | | |
|--------------------------|--------------------|---|---|
| 2 | Champhone district | Temperature increasing from 38 °C (5-10 years ago) to 40-42°C currently. Dry season is longer than raining season. Rain decreasing compared to the last years, some places are under drought, some places are flooded; the rain comes late and at the wrong season. More soil erosion at the banks of Xe Chomphone river, a lot of sediment makes water level lower, and more sandbanks as usual. Disaster events: drought, storms and floods - damages to houses, agriculture area and animals, irrigation systems and roads. Land clearing of forests and rice fields to grow sugar cane and rubber trees. Forests have been destroyed, damages to wildlife and biodiversity. | 102 villages. Area = 1029,80 km2. Population = 106.361. F = 54.620. Families= 18.067 hh |
| Xekong Province | | | |
| 1 | Lamam district | The peak temperature was 44,9°C. Amount of rain very low. Short raining season. Soil is not of good quality. Low agriculture yield. Expanding drought area. No water in the streams. Ground water is very deep. People are poor and lack education. Population increases. More conflicts on land use. Children have no opportunity to study due to poverty. | Area = 193.358 ha. Low rice field = 2700 ha. Upland rice field = 900 ha. Population = 29.700. 42 villages. Families= 4.545 hh. |
| Saravanh Province | | | |
| 1 | Khongxedon | The temperature in this year is very high and district I sunder drought. Amount of rain very low. The raining season is shorter. Low agriculture yield. Expansion of drought and flood areas. Lack of water in the streams and wetlands. People are poor and have poor education. Children have no opportunity to study due to poverty. | 36 villages |



Stakeholder analysis

| No | Organization | Location | Stakeholder Groups | Resource/Mandate | Possible support | Issue/Problem |
|----------------|---|-------------------------------------|------------------------------|--|--|--|
| Group 1 | | | | | | |
| 1 | Agriculture product group | Village | Farmers | Agriculture and livestock | Information/data Technicians | Lack of experience. |
| 2 | Kumban | Kumban | Villages and staffs in group | Information for farmers. Improve work environment. Management | Monitoring and evaluation. | Lack of experience in technical group management |
| 3 | PAFO | District and village service center | District GoL staffs | Support technicians for agriculture, livestock and irrigation. NTFP conservation | Support technician, technologies | lack of funding, vehicles, equipment |
| 4 | Environmental office | District and Province | GoL | Provide information on water, weather | Early warning, environmental warning | lack of modern equipment |
| 5 | Land use authority office | District and Province | GoL | Land use planning and management | information/register, land use regulation | Conflicts on land use and ownership |
| 6 | Red cross | Province | GoL | Health of community, food, medicine | Provide food, animals (cattle, chicken), clothes | |
| 7 | Youth and women group | Village, District, Province | | Training on gender, agriculture, handicraft, and cooking | Lack of funding and trainers | |
| 8 | Projects (PEI, ADB, IFAD, UXO, LEAP, JICA, SUFORD, SNV) | | | | | |
| Group 2 | | | | | | |
| 1 | PAFO & DAFO | Province, District | GoL | Support to technologies. Research and lab center. Provide information | Team collaboration | Not enough technical knowledge. Lack of equipment. Lack of funding |

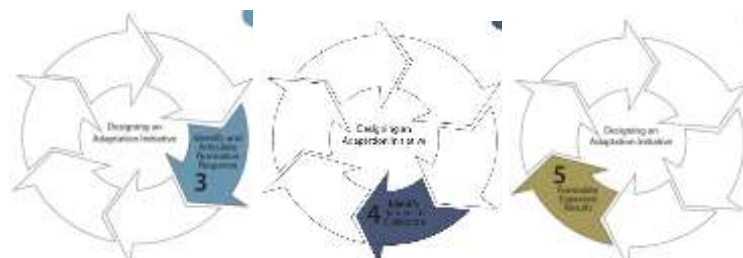
| | | | | | | |
|----|---|----------------------|-------------------|--|--|--|
| 2 | Farmer group | Village | Farmers/villagers | Information about produce. To be a good producer. | Using, demonstrate, spread out the product technologies. Good team work. | Lack of technical knowledge |
| 3 | Livestock group | Village | Farmers | To breed animals | Using, demonstrate, spread out livestock technologies. Good team work | Not enough resources for taking care of animals / livestock. Diseases of animals. |
| 4 | Land use authority | Province, District | GoL | Land use planning. Providing land titles | Information on decree, regulation of land use planning | Not enough staff. Staff lacks knowledge. Not good enough for joining working with other sections |
| 5 | Water Resource and Environment Administrative | Province, District | GoL | Collecting information and provide the data | To warn on dangerous weather situations | Not enough equipment |
| 6 | Disaster and management office | Province, District | GoL | | | |
| 7 | NGOs : NORMAN | Savannakhet province | NGO Laos | Funds from international, donor. Rural development. | Coordinate and support project activity on village level | Not enough staff. Lack of funding |
| 8 | Fida international | | NGO | Coordination with Government and villagers. Provide agriculture knowledge, education | Support project activity on village level | |
| 9 | WVL | | NGO | Rural development | Support project activity on village level | |
| 10 | SNV | | NGO | Funding. Coordinate with Gov , village | Support project activity on village level | |
| 11 | JVC | | NGO | | Support project activity on village level | |

List of members of each group

| No | Name | Position & Institution | Tel |
|-----------------------------|------------------------------|---|---------|
| Day 1 | | | |
| Attapue province | | | |
| 1 | Mr. Khounthong Sisanone | LRC | 9399824 |
| 2 | Mr. Xayyalath | Land Use Authority | 229110 |
| 3 | Mr. Bounseuth Setthilath | Vice of DAFO | 2292333 |
| 4 | Mr. Seangsack Phinmanyvong | Technical staff, Land Use Authority | 5708870 |
| 5 | Mr. Sysouk Syphomma | Agriculture office in Phouvong district | 2900734 |
| 6 | Mr. Somneuk Keokhambai | Technical staff, agriculture office in Sanhamxay district | 9834486 |
| 7 | Mr. Bounphaeng | | 5251036 |
| 8 | Mr. Vonexay | PAFO | 5736174 |
| Champasack Province | | | |
| 1 | Mr. Prachit | Vice director of PAFO | 5530979 |
| 2 | Mr. Souliyo Phanthavong | Technical staff | 2260701 |
| Savannakhet province | | | |
| 1 | Mr. Chanthavong Phommanyay | Youth office | 212123 |
| 2 | Mr. Phouthone Xoumphonphakdy | Agriculture office in Outhoumphone district | 2316048 |
| 3 | Mr. Sathy Thiladxay | Farmer from Outhoumphone district | 2695159 |
| 4 | Mr. Phouban Chanthalak | Farmer from Champhone district | 2613282 |
| 5 | Mr. Souksamhone Keooudone | Agriculture office in Champhone district | 5441247 |
| 6 | Mr. Phoumphak Chanthachak | Representative of Kumban PhaXouam | 2613282 |
| 7 | Mr. Khamamay | Representative of rice mill | 5407520 |
| 8 | Mr. Khamphanith Vongsa | Vice of PWERA | 5446342 |
| 9 | Mr. Khambone Khammanyvong | Agriculture and Forestry development Section & Director of SHDP project | 2242431 |
| 10 | Mr. Soundala Touaphanith | Planning section | 5440652 |
| 11 | Ms. Malilamphone Thanthateap | Head of planning unit | 5151505 |
| 12 | Mr. Bounsou Vongsavanh | Land Use Authority | 5643024 |
| Saravanh province | | | |
| 1 | Mr. Viengkeo Chanthaboune | Vice of planning section (PAFO) | 2286297 |
| 2 | Mr. Khamkeuth Douangmalalay | Technical head of PAFO | 6845052 |
| Xekong Province | | | |
| 1 | Mr. Phetdavong Bounmysavanh | Head of PWREA | 5431171 |
| 2 | Mr. Sounthone Phimmavongsa | PAFO | 4251289 |
| 3 | Mr. Bounthanleng Sayyavong | Technical head of disaster management office | 9837917 |
| 4 | Mr. Bounnoy | Vice of PLMA | 6844334 |

| | | | |
|----------------|---------------------------------|---|---------|
| 5 | Mr. Bounsouan Lathsaphakdy | | 2423011 |
| 6 | Mr. Sanalith Sysoulath | GIS officer, NAFRI | 2207252 |
| Day 2 | | | |
| Group 1 | | | |
| 1 | Mr. Viengkeo Chanthaboune | Vice of Planning section (PAFO), Saravanh Province | 2286297 |
| 2 | Mr. Sanalith Sysoulath | GIS officer, NAFRI | 2207252 |
| 3 | Mr. Souliyo Phanthavong | Technical staff, Champasack Province | 2260701 |
| 4 | Mr. Seangsack Phinmanyvong | Technical staff, Land Use Authority, Attapue Province | 5708870 |
| 5 | Mr. Khamphanith Vongsa | Vice of PWERA, Savannakhet province | 5446342 |
| 6 | Mr. Soundala Touaphanith | Planning section, Savannakhet province | 5440652 |
| 7 | Mr. Phouban Chanthalak | Farmer from Champhone district, Savannakhet | 2613282 |
| 8 | Mr. Sathy Thiladxay | Farmer from Outhoumphone district, Savannakhet Province | 2695159 |
| 9 | Mr. Sysouk Syphomma | Agriculture office in Phouvong district, Attapue province | 2900734 |
| 10 | Mr. Bounthanleng Sayyavong | Technical head of disaster management office, Xekong province | 9837917 |
| 11 | Mr. Sounthone Phimmavongsa | PAFO, Xekong province | |
| 12 | Mr. Bounseuth Setthilath | Vice of DAFO | 2292333 |
| Group 2 | | | |
| 1 | Mr. Khambone Khammanyvong | Agriculture and Forestry development Section, Savannakhet province | 2242431 |
| 2 | Mr. Phouthone Xoumphonphakdy | Agriculture office in Outhoumphone district, Savannakhet province | 2316048 |
| 3 | Mr. Sypaseuth | NAFRI | |
| 4 | Mr. Souksamhone Keoudone | Agriculture office in Champhone district, Savannakhet province | 5441247 |
| 5 | Mr. Phetdavong Bounmysavanh | Head of PWREA, Xekong province | 5431171 |
| 6 | Mr. Bounsou Vongsavanh | Land Use Authority, Savannakhet province | 5643024 |
| 7 | Mr. Chanthavong Phommanyay | Youth office, Savannakhet province | 212123 |
| 8 | Mr. Bounnoy | Vice of PLMA, Xekong province | 6844334 |
| 9 | Mr. Somneuk Keokhambai | Technical staff, Agriculture office in Sanhamxay district, Attapue province | 9834486 |
| 10 | Mr. Khounthong Sisanone | LRC, Attapue province | 9399824 |
| 11 | Mr. Xayyalath | Land Use Authority, Attapue province | 229110 |
| 12 | Mr. Bounphaeng | Attapue province | 5251036 |
| 13 | Mr. Vonexay | PAFO, Attapue province | 5736174 |

Minutes prepared by: Ms. Phoutsakhone Ounchith. 12 May 2010

Annex 2.4: National Planning Workshop Vientiane, 18th-19th of May 2010 (WS3)

Minutes of the 3rd Workshop (Draft)

Planning workshop for a full project document on 18-19 May 2010

“Improving the Resilience of the agriculture Sector in Lao PDR to Climate Change Impact”
(NAPA Follow Up Project)

Meeting date and time: 18-19 May 2010, 08:15-17:00

Meeting place: Lao Plaza Hotel, Vientiane.

Participants: The workshop aimed specifically on participants with long-term professional experience in strategic project planning and focused on agriculture, environment, climate change, natural resource management, disaster management, policy development. List of participants is included as Annex.

Objectives:

- To present the project framework
- To identify core problems/causes, strategies/desired responses and potential stakeholders on national level
- To provide inputs for the eventual revision of the existing project logframe

Expected outcome:

- A better public understanding of the project framework
- An analysis of project situation, strategies and key stakeholders identified
- Inputs for a revised project logframe
- Recommendations for project design, implementation and management

Session outline:

➤ Day 1: 18 May 2010

1. Welcome and introduction of the workshop by Mr. Soulivanthong Kingkeo, Deputy Director General of NAFRI, and Mr. Bruno Cammaert, Head of Environmental Unit, UNDP:
 - NAPA (National Adaptation Programme of Action), new Strategy of Lao PDR on Climate Change (March 2010) and 7 adaptation options in Climate Change Strategy related to Agriculture and Food security.
 - Role of NAFRI to facilitate innovation and adaptation research in agriculture
 - Importance of NAPA follow up project to put the new strategy into reality
 - Importance of support by interested parties and requirement of co-finance
 - Expected outcomes

2. Presentation of significance of Climate Change adaptation for agriculture in Lao PDR by Mr. Khamphone Mounlamai:
 - Strategy on Climate Change Lao PDR
 - NAPA priorities for agriculture
 - MAF: Agriculture, NR and RD strategy 2020 (draft)
 - NAFRI organization and structure
 - Research activities and Climate Change
3. Presentation the objective, agenda and overview by Mr. Manfred Staab, Lead Consultant:
 - Data, information, politics, science and Climate Change
 - Definition: Climate Change adaptation in 2010
 - Workshop activities
4. Session 1 and 2 - facilitated by Mr. Manfred Staab, and supported by the team. For results of the sessions see Annexes.

➤ **Day 2: 19 May 2010**

5. Overview of Day 1 by Mr. Manfred Staab
6. Sessions 3, 4, 5, and 6 - facilitated by Mr. Manfred Staab, and supported by the team. For results of all sessions, see Annexes.
7. Summary of the 2-days' workshop sessions by Mr. Manfred Staab
8. Closure by Mr. Bruno Cammaert and Mr. Khamphone Mounlamai
 - Thanks to the participants
 - Thanks to the team

Agenda

Day 1: 18 May 2010

| Timing | Activity | Responsible |
|-------------|---|--|
| 08.00-08.15 | Registration | |
| 08.15-08.25 | Opening the workshop | Mr. Soulivanthong kingkeo, DG of NAFRI |
| 08:25-08:35 | Significance of Climate Change adaptation for agriculture in Lao PDR | Khamphone Mounlamai (NAFRI), MAF |
| 08:35-08:45 | Objectives, agenda and overview | Lead Consultant, Team |
| 08:45-09:45 | Session 1: SWOT analysis Climate Change Adaptation: Science, global politics, processes, results | Team, Phoutsakhone Ounchith, Manfred Staab |
| 09:45-10:00 | Coffee break | |
| 10:00-11:30 | Continue Session 1 | Team, Phoutsakhone Ounchith, Manfred Staab |
| 11:30-12:00 | Session 2: Problem tree/causes – Climate Change, Agriculture and Resilience in Lao PDR | Manfred Staab, Khamphone Mounlamai, Team |

| | | |
|-------------|------------------------------|--|
| 12:00-13:15 | Lunch | |
| 13:15-14:45 | Continue Session 2 | Manfred Staab, Khamphone Mounlamai, Team |
| 14:45-15:00 | Coffee break | |
| 15:00-17:00 | Session 3: Desired responses | Manfred Staab, Kinnalone Phommasack |
| 17:00 | Wrap up | |

Day 2: 19 May 2010

| | | |
|-------------|--|--|
| 08:15-08:25 | Overview of day 1 | Manfred Staab |
| 08:25-10:00 | Session 4: Barriers to overcome | Manfred Staab, Khamphone Mounlamai, Team |
| 10:00-10:15 | Coffee break | |
| 10:15-12:00 | Session 5: Expected results | Manfred Staab, Khamphone Mounlamai |
| 12:00-13:15 | Lunch | |
| 13:15-14:30 | Continue Session 5 | Manfred Staab, Khamphone Mounlamai |
| 14:30-15:00 | Session 6: Stakeholder Analysis | Phoutsakhone Ounchith, Team |
| 15:00-15:15 | Coffee break | |
| 15:15-16:40 | Continue session 6 | Phoutsakhone Ounchith, Team |
| 16:40-16:55 | Overview of day 2 and summary of 2 days workshop | Manfred Staab, Team |
| 16:55-17:00 | Closure | Mr. Soulivanthong kingkeo, DG of NAFRI |
| 19:00 | Farewell dinner | |

List of participants

Day 1: 18 May 2010

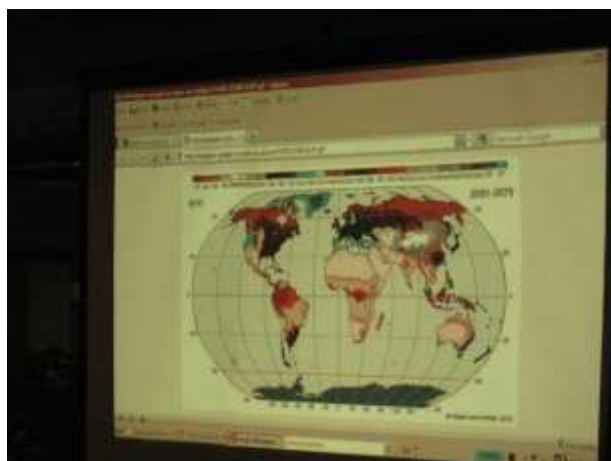
| No | Name | Position | institute | Telephone & Email |
|----|-------------------------|---|-----------|-------------------|
| 1 | Kinnalone Phommasack | NAPA follow up project coordinator assistant | NAFRI | 2006777 |
| 2 | Somsack Somthavong | Technical | DoF | 5920357 |
| 3 | Lea Manyvong | Technical | DoA | 3012428 |
| 4 | Manuel Bertomeu | NAFRI RMD Advisor | NAFRI | 3035599 |
| 5 | Chanhsom Manythong | | ADB | 5784888 |

| | | | | |
|----|-----------------------|------------------------------------|---------------------------------------|---|
| 6 | Sysavath Homdala | DG of division | MAF | 2245641 |
| 7 | Bruno Cammaert | Head of Environmental Unit | UNDP | |
| 8 | Somnuck Thirasack | DDG | NAFES | 4620284 |
| 9 | Seung Ho Han | E.S | UNDP | |
| 10 | Somboune Sayavong | DG | NAFRI | 5021310; ssomboune@yahoo.com |
| 11 | Inthiphone Xayyavong | National Project Officer | WFP | 5459104 |
| 12 | Houmphanh Rattanavong | President | LBA | 5537187 |
| 13 | Viriya Pounsiri | Technical Officer | DIC | 9884884 |
| 14 | Somphanh Pasouvang | Vice Dean | Faculty of Agriculture, NUoL | 2425389 |
| 15 | Viengkham Chanthavong | Lecturer | Faculty of Agriculture, NUoL | 24442361 |
| 16 | Soulivanthong Kingkeo | DDG | NAFRI | 2475891 |
| 17 | Somsameu | | NAFRI | |
| 18 | Phouthone | Technical | Land use research center, NAFRI | |
| 19 | Souksavanh | | Planning, NAFRI | |
| 20 | Khamphai | | DoF | |
| 21 | Thavysack | Deputy of division | MAF | |
| 22 | Mivang Sipaseuth | | RR, NAFRI | 770082 |
| 23 | Thavivanh Phanakhone | EE Project Manager | WWF | 216080; thavivanh.phanakhone@wwfgreatermekong.org |
| 24 | Manfred Staab | Lead Consultant | UNDP&NAFRI | manfredstaab@hotmail.com |
| 25 | Phoutsakhone Ounchith | National Consultant | UNDP&NAFRI | pouchith@yahoo.com |
| 26 | Singha Ounniyom | Programme Analyst | UNDP, Environment Unit | Singha.Ounniyom@undp.org ; 020 4040749 |
| 27 | Bouageun Oudonehit | Head of Climate Division | Department of Metrology and Hydrology | 5718953 |
| 28 | Khamphone Mounlamai | NAPA Follow Up project Coordinator | NAFRI | 5800755; kphonemou@yahoo.com |
| 29 | Horst Weyerhaeuser | Research Management Advisor | NAFRI -URDP | horst@fastmail.fm |
| 30 | Phetdavone | National coordinator | GEF-SGP | 63050544 |
| 32 | Bounsay Chanthalath | | NAFRI | 5993246 |
| 32 | Khampha Chanthirath | DDG of RMD | RMD, NAFRI | 5814591 |
| 33 | Khamliene Nolasing | Technical | SNRMPEP | 2234689 |
| 34 | Syamphone | DG | DoE, WREA | 5508961 |

Day 2: 19 May 2010

| No | Name | Position | Institution | Telephone&email |
|----|----------------------|--------------------------|-------------|-----------------|
| 1 | Manuel Bertomeu | NAFRI RMD Advisor | NAFRI | 3035599 |
| 2 | Inthiphone Xayyavong | National Project Officer | WFP | 5459104 |

| | | | | |
|----|--------------------------|--|---------------------------------------|--|
| 3 | Amphayvanh Oudomdeth | Technical officer | Dept of environment | 553322 |
| 4 | Bounsay Chanthalath | DG | NCAC | 5993246 |
| 5 | Khampha Chanthirath | DDG of RMD | RMD, NAFRI | 5814591 |
| 6 | Southsada Lattana | | NAFRI | 770449 |
| 7 | Khonevilay | | Planning, NAFRI | 770093 |
| 8 | Philavanh | | NAFRI | 740414 |
| 9 | Phetsavath | | NAFRI | |
| 10 | Sisavath Homdala | DG | PSO, MAF | 2245824 |
| 11 | Bounsy Nanthaphone | Technical | DoF/MAF | 2446846 |
| 12 | Vilayvanh | DDG | Laos Women Union | 9962750 |
| 13 | Somsack Somthavong | Technical | DoF | 5920357 |
| 14 | Somboune Sayavong | DDG | NAFRI | 5021310; ssomboune@yahoo.com |
| 15 | Linkham Douangsavanh | DG of PRC | NAFRI | |
| 16 | Seung Ho Han | E.S | UNDP | |
| 17 | Oloth | | NAFRI | |
| 18 | Palikhone Thavongsengcha | DG | NLMA | 2224147 |
| 19 | Phetdavone | National coordinator | GEF-SGP | 63050544 |
| 20 | Khamphone Mounlamai | NAPA Follow Up project Coordinator | NAFRI | 5800755; kphonemou@yahoo.com |
| 21 | Kinnalone Phommasack | NAPA follow up project coordinator assistant | NAFRI | 2006777 |
| 22 | Manfred Staab | Lead Consultant | UNDP&NAFRI | manfredstaab@hotmail.com |
| 23 | Phoutsakhone Ounchith | National Consultant | UNDP&NAFRI | pouchith@yahoo.com |
| 24 | Bouageun Oudonehit | Head of Climate Division | Department of Metrology and Hydrology | 5718953 |
| 25 | Lea Manyvong | Technical | DoA | 3012428 |
| 26 | Vonvilai | DDG of Planning division | NAFRI | 5604759 |



Session 1 - SWOT analysis

| Climate Change: Information, Global, Politics, Processes, Results? General Assessment | | | |
|--|--|--|--|
| Strengths (Lao PDR) | Weaknesses (Lao PDR) | Opportunities (International) | Threats (International) |
| Lao PDR resources committed (but are mainly external) | No clear implementation /detailed strategy and follow up | Poor countries require know-how from industrial countries (and vice versa) | Fully depending on external assistance |
| New environmental law in preparation (does it include CC?) | Sharing & use of information among INGOs, UNs, and GoL agencies | Improved coordination between ministries | Certain policies by developed countries might be harmful to less developed |
| Funding available, external | Lack of information flow and proper channeling | More regulations to be developed | Increase of water level in oceans |
| Renewed interest in environment | Local participation (farmers, business companies) | Good scientific tools, data on climate variability | CC has affected the globe in the past few year by increasing disasters |
| General agreement on need to act | Difficult to obtain scientific info | Agriculture improving | Less water for agriculture |
| Discovery of new species (plants) | Still weak in capacity to defend sustainable practices | Promote adapt and resilience = promote diversity | Funding conditions |
| Indigenous knowledge is often taking risks into account | Limited human resource on CC | Worldwide recognition | High temperature, long period of dry season, lack of water for consumption and agricultural production |
| GoL & international community aware of issues | Limited awareness on CC | Incorporate more INGOs, UN and Gov in planning | Frequency of disasters |
| Strong support from GoL | High risk of becoming a top-down process | Accuracy of policies | Local communities might not benefit as much as possible or promised |
| Still high level of biodiversity i.e. prepared to cope with change | Reduced income | Plenty of funds available to support related research and development | Increasing difficulty for planting/agriculture |
| Clear Lao Gov policy on CC | Less information distributed to public | Promotion of renewable energy | Population increase |
| Crops diversified | Lack of finances to support or act on - legal enforcement - policy development | Building a sustainable society | Insufficient food supply |
| Natural resources existing | Lack of funds | National institutional focal point creation | Increased (development) of the industrial sector |
| Strong commitment since ratification UNFCC 1992 | Implication of investment are not sufficiently considering CC issues | More fund are available to support CC activities | Political disagreement between developed and developing countries |
| Some awareness raised in Lao PDR | Global warming, water level increase in oceans | Increasing the forest resources | No common agreement among nations |
| Laos is in a positive position to develop the agriculture and water industry for exporting | Crop tolerance | Less negative CC effect because of being a land-locked country | Short term benefits may be priorities in decision-making |

| | | | |
|--|---|--|--|
| to other countries | | | |
| Awareness and responsibility | Language barrier | More research for CC | Climate disaster |
| Ministerial agreement on crop land management in preparation (DOA/MAF) | Weak effect of policies | Support from international organizations | Crop diseases |
| Good national policies | Attention diverted | More investments in agriculture & forestry sector | Technical solutions offered only |
| | Law enforcement not strong for good resource management | Indigenous knowledge re-discovered | Lack of political actions to mitigate |
| | Policies are not implemented | Policy planning coordinated | Denial by those who cause the problem |
| | People do not understand CC | Less chemical products | Lack of investment in mitigation of natural disasters |
| | Insufficient protection of forests | Support by international organization | Low investment in mitigation strategies |
| | Lack of knowledge and skill | Conservation of forest for CO ₂ selling | More and new diseases |
| | Temperature increase, Lack of water for consumption | Job opportunities | Natural disasters looming |
| | Agriculture production decreasing | Information available globally, and fast | Some crops will not grow |
| | No implementation of CC policies | Good opportunity for Laos to develop agriculture | Human migration |
| | Agriculture mainly depending on natural resource | Stop deforestation from people's burning | Reduced agriculture production brings more poverty |
| | Temperature increase, not enough water for consumption | UN/other donor support | Mitigation methods insufficient |
| | Effect to living things underestimated | Support from donors (fund, information etc) | Land allocation not clear |
| | People burning the forests for hunting animals | Promote agriculture production, livestock, hydropower industries as opportunity for export | Large investment in agriculture |
| | | Promote an opportunity for investment | Population pressure will increase |
| | | National events | World impact of CC |
| | | Awareness raising | Unusual Climate Change patterns |
| | | Multi-farming practice | Not clear solution among states on time frame, policies... |
| | | | Population increase |
| | | | Natural disasters |
| | | | No protection and increasing disasters |
| | | | Water issues |
| | | | Land use planning and |

| | | | |
|--|--|--|--------------------|
| | | | policy unclear |
| | | | Mono-cropping |
| | | | Increase of energy |

Session 2 "Problem tree/Causes – Climate Change, Agriculture and Resilience in Lao PDR"

| Climate Change: Agriculture, Adaptation and Resilience in Lao PDR Is Agriculture in Lao PDR adapting to anticipate Climate Change? | | |
|---|---|--|
| What are the problems? | What are the causes? | What is the main or root cause(s)? |
| <ul style="list-style-type: none"> • Ignorance of indigenous knowledge • Lack of specific measures on CC • Land concessions • Forest exploitation • Shifting cultivation • Corruption issues • No care for products and protection of forests • Water shortage • Loss of agro-biodiversity • Low resilience • Change in agriculture practice • Existing adaptation strategies banned, stigmatized, etc • Low productivity and inefficient food production • Low productivity, not enough rice production in mountains • Not enough research support by NUoL, NAFRI to provide crucial information to policy makers • Chemical technologies • Influence of cash crop production • Not many cooperatives • Land for agriculture use in decrease • Low income • Yields and economic growth have higher priority • Low yields, high cost of inputs • In appropriate farming practices • Lack of water for agriculture | <ul style="list-style-type: none"> • Large scale investment in agricultural commodities • Production in forests commercialized • Business influence • Consumption rates and patterns • Lack of analysis on CC • Water shortage • Decreased agriculture area • Poverty • Low income • Insufficient agriculture land • Plantation techniques for rice in the field • Use of chemical fertilizer • High short term profits expected by investors • Lack of long-term agriculture development strategy by GoL • Natural resources degraded • Not strong enough evidence of CC in Laos • Lack of agricultural land and appropriate techniques for people in remote areas • Lack of water for production • Natural disasters • Forest land has been destroyed • Lack of financial resources • Income generation of local people • To get higher yields • Shifting cultivation, slash and burn agriculture • Lack of scientific information for decision-making | <p>Policy/Administrative Level</p> <ul style="list-style-type: none"> • Present information provided to GoL is not addressing future agricultural challenges sufficiently to develop sustainable vision • Growth targets do not reflect CC related to risks • Weak or insufficient implementation of development policies • Weak administrative capacity on local level • No adequate land use planning <p>Technical Level</p> <ul style="list-style-type: none"> • Lack of human resources and capacity • Limitations of extension service • Lack of agriculture techniques <p>Village Level</p> <ul style="list-style-type: none"> • Diminished capacity and capability of farmers to adapt • Lack of technical information on local level • Most local people have a poor education and no understanding on climate change issues |

Session 3 – “Desired responses”

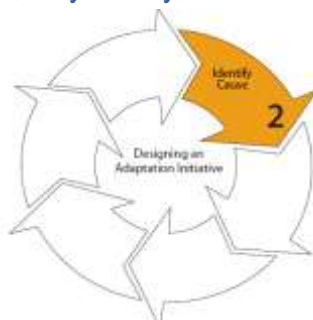
| Climate Change: Agriculture, Adaptation and Resilience in Lao PDR Is Agriculture in Lao PDR adapting to anticipate Climate Change? | | | |
|--|---|---|---|
| What would be the ideal responses to the main cause? | What are the desired standard development responses? | What are the specific desired responses related to Climate Change? | What should be the main thrust/objective of the project? |
| <ul style="list-style-type: none"> • Agro-forestry system development • Institutional development • Technical support and facilitation • Financial support • Policy support & institutional • Climate Change law/act • Support to off-farm income generating activities • Incentives for sustainable land management technology • Information to local people about project objectives and development in future • Define appropriate policy and measure in agriculture practices • Public awareness of Climate Change adaptation | <ul style="list-style-type: none"> • Eco-friendly agriculture • Promote, awareness on the risk of CC impact on environment to farmers • Action research • NTFPs processing and market linkage • Livelihood improvement • Encourage to use the existing laws • Reducing vulnerability of agriculture • Improve water use efficiency • Diversify farm portfolios • Improved pest management • Improve climate forecast & information to farmers • Increasing productivity • Land zoning for production • Better infrastructure in rural areas • Watershed management • Water center (water, climate forecast) • Safety net activities such as reduction/mitigation effect of flood, drought e.g. Bank erosion, earth dam • Improve irrigation | <ul style="list-style-type: none"> • Enabling farmer’s responses to adapt to CC • Research climate risks (local level) • Management of the land and alternative crop species • Food and water storage technology • Organic food production • CO₂ + N reduction • Clean/renewable energy development • Incentives for forest conservation/soil • Reduce CO₂ emission • Conservation farming (no tillage) • Study impact of CC on agriculture production systems • Early warning system • Inform people to evacuate to the safe area • Construct weirs • Re-planting in flood areas • Appropriate irrigation systems • Development of small scale irrigation systems | <ul style="list-style-type: none"> • Enhancing farmers capacity to adapt to CC • Collection of data and participation • Ensuring farmers adaptive capacity • Management, promote and sustainable use of natural resource • All stakeholder join and collect data • Sustainable income of farmers (organic) • Reduction of natural resource use • Conservation of existing forest • Land use planning suitable to CC • Support the research for good varieties that can adapted to CC • To implement techniques that have been developed and tested in the country • Improve farming systems for livestock, diversify seeds, fishery development |

Session 4 - “Barriers to overcome”

| Climate Change: Agriculture, Adaptation and Resilience in Lao PDR Is Agriculture in Lao PDR adapting to anticipate Climate Change? | | | |
|--|---|--|---|
| Information | Institutional Capacity | Economic constraints | Administrative/ Political factors |
| <ul style="list-style-type: none"> • Reading skill / literacy • Statistics hard to get by locals • High level of illiteracy • Official language • English • Poster art (illustrations), community radio • Difficult to translate science into local context • Baseline info lacking, difficult to collect & difficult to interpret • Facility(ies) and equipment for project • Remote area – difficult to access • Data base system • Dissemination system • Tools and methods • Limited budget for printing / dissemination • Lack of equipment • Lack of knowledge • No internet, media, TV, radio in local area • Inconsistent and not traceable information • Extension messages do not reach farmers • Extension messages not adapted or not understood by farmers • Concept of CC and adaptation not understood within project lifetime • Promote preventive adaptation to address root cause of natural disaster exacerbated by CC • Cultural barriers to adaptation (beyond coping measures) • Difficult to collect local knowledge and existing coping mechanism: divers/conflicting/ scattered | <ul style="list-style-type: none"> • Working facilities e.g. tools, equipment etc • Lack of skilled staff at TSC • Lack of CC experts • Very weak outreach capacity (NAFRI, MAF) – farmer to farmer extension or other channels • Lack of commitment | <ul style="list-style-type: none"> • Livelihood depending on natural resource • Market access • Policy issue • Sustainability exist strategy needed for project reliant exist funding • Involve private sector • Adaptation cost not economical for farmers • Limited sources for incomes | <ul style="list-style-type: none"> • National committee on CC at concept level only • Inactive civil servants • Some national policies unsupportive to existing adaptation strategies • Lack of human resource at TSC • Unclear roles & responsibilities of stakeholders |

Session 5 – “Expected results”

| Climate Change: Agriculture, adaptation and resilience in Lao PDR Are the statements for expected outcomes relevant? How can they be improved? | | | |
|--|--|--|--|
| 1. Knowledge base on CC impact in Lao PDR on agricultural production and food security strengthened | 2. Capacities of sectoral planners and agriculture producers strengthened to understand and address Climate Change related risk and opportunities for local food production and socio-economic | 3. Community based adaptive agricultural practices demonstrated and promoted within suitable agro-ecological system | 4. Adaptation learning as a long-term process |
| <ul style="list-style-type: none"> • Vulnerabilities to be added • In addition to strengthening knowledge base: fill up knowledge gaps • Sustainable agro-forestry system • Local coping mechanism | <ul style="list-style-type: none"> • Improving capacity of technical staff at technical service center (TSC) and farmers to adapt to CC • Continued participation of the same people • Replace “planners & producer” into “relevant stakeholders” • Incentives for implementer (! ?) | <ul style="list-style-type: none"> • Identify agro-ecological systems and stakeholders • Should consider the potential difference of location/households for ownership, implement and policy maker to support food security • Promote alternative business to farmers (marketing) & improve infrastructure • Incentive for advanced practice material, equipment • Suggest activities (outside the session): <ul style="list-style-type: none"> - Provide techniques & seeds to farmer groups - CC adaptation workshop to the farmers | <ul style="list-style-type: none"> • Monitoring & evaluation • Technical workshop for exchanging knowledge and skill |

Annex 2.5: Regional consultation North, Xayaboury, 17th-18th of June (WS4)

Minutes of the 4th Workshop (Draft)

Regional Consultation Workshop on Full Size Project Document Formulation for NAPA Follow Up Project

Meeting date and time: 17-18 June 2010, 08:30-16:30

Meeting place: PAFO in Xayabouly Province

Participants: The workshop aimed specifically on participants with long-term professional experience from four provincials: Xayabouly, Oudomxay, Luangnamtha and Luangprabang province (e.g. PAFO, DAFO, DDMO etc) or long-term residential experience in concerned districts, kumban and villages. Indigenous representatives and farmers / villagers were invited to attend also.

Objective: In the planning phase of the project development process the meeting will bring together relevant stakeholders from GoL, UN, NSOs (NGOs) and other parties. The project framework (especially component 3) will be presented and stakeholders are asked to assist in identification of suitable project locations according to defined criteria.

Session outline:

➤ **Day 1: 17 June 2010**

12. Welcome and introduction of the workshop by Dr. Bounthong Bouahom, the Head of NAFRI

- Welcome to the workshop participants
- Introduction NAPA follow up project
- Climate change adaptation in Lao PDR
- Project components
- Workshop objective

13. Presentation of NAPA Follow Up project by Mr. Khamphone Mounlamai, Counterpart Coordinator.

- History of NAPA Follow Up project
- The PPG team
- Strategy on CC in Lao PDR
- Projective objective and components
- Budget
- NAPA Follow Up/ FSP phases
- Milestones
- Project schedule
- Inception phases

- Participatory consultation phases
- Design phase FSP input
- Field identification phases
- Review consultation phases
- Finalization and approval phases
- Implementation arrangements
- Project structure – draft

14. Presentation of criteria for identification of project sites and explanation of the group works by Ms. Phoutsakhone Ounchith, National Agriculture Consultant

- Presentation of the expected output of each project component
- Presentation of four criteria for site selection: natural indicator, human indicator, agriculture indicator and information/replication indicator

15. Working groups “ part 1” – facilitated by Dr. Kinnalone Phommasack and Ms. Phoutsakhone Ounchith

This exercise focused on the following issues:

- 9) Natural indicators
- 10) Human indicators

The participants were divided in 4 groups: Xayabouly group, Luangnamtha group, Oudomxay group, and Luangprabang group. The names of the members of each group see attachment.

16. Working groups “part 2” – facilitated by Dr. Kinnalone Phommasack and Ms. Phoutsakhone Ounchith

This exercise focused on the following issues:

- 11) Agricultural indicators
- 12) Indicators for information, analysis

17. Presentations to audience by member of groups

For results of the working groups see attachment.

18. Closure and summary of the day 1 by Mr. Khamphone Mounlamai

- Summary day 1
- Thanks to the groups for their participation

➤ **Day 2: 18 June 2010**

19. Explanations and presentation on part 3 and 4 by Ms. Phoutsakhone Ounchith

20. Working groups “part 3 & 4” – facilitated by Dr. Kinnalone Phommasack and Ms. Phoutsakhone Ounchith

This exercise focused on following issues:

- 13) Marking of suggested locations and justifications for each selected site in line with criteria
- 14) Stakeholder analysis

21. Presentations to audience by member of groups

For results of the working groups see attachment.

22. Closure of Workshop by Mr. Kongsy Vongsy, Vice of PAFO in Xayabouly Province; and Mr Khamphone Mounlamai, Counterpart coordinator

- Brief summary of the workshop

- Thanks to the participants

Agenda

Day1: 17 June 2010

| Activities | Who | Time |
|--|-------------------------------------|------------------------|
| Registration | Ms. Phatsany | 08.30-09.00 |
| Introduction of participants | Dr. Kinnalone | 09.00-09.15 |
| Opening of Workshop: Climate Change and Lao PDR Strategy | DG of NAFRI Provincial Authority | 09.15-09.25 |
| Presentation of NAPA Follow Up Project | Mr. Khamphone | 09.25-10.00 |
| Group photo followed by coffee break | | 10.00-10.15 |
| Presentation of 4 criteria for identification of project sites | Dr. Kinnalone/ Ms. Phoutsakhone | 10.15-10.45 |
| Working Groups (part 1) Working on following issues: Identification of location 9) Natural indicators 10) Human indicators | Team | 1045-1200 |
| Lunch | Ms. Kesone | 12.00-13.30 |
| Working Groups (part 2) Working on following issues: 11) Agricultural indicators 12) Indicators for information, analysis | Team | 13.30-1430 |
| Coffee break | | 1430-1445 |
| Presentations to audience by member of groups Discussion | | 1445-1545 1545-1625 |
| Summary and conclusions for day 1 | Mr. Khamphone | 16.25-16.30 |
| Welcome Party/Dinner | Ms. Kesone | 18.30 |

Day 2: 18 June 2010

| | | |
|---|------------------------------------|-------------|
| Registration | | 08.30-08.45 |
| Overview working group (part 3) and presentation of stakeholder analysis (part 3) | Dr. Kinnalone/ Ms. Phoutsakhone | 08.45-09.00 |
| Working Groups (part 3) Working on following issues: | Team | 09.00-11:00 |

| | | |
|---|-------------------------------------|-------------|
| 13) Marking suggested locations by name on the map 14) Justifications for each selected site in line with criteria Working groups (part 4) Working on following issue: 15) Stakeholder analysis | | |
| Presentation to audience by member of groups | | 11.00-12.00 |
| Summary and Conclusions | Mr. Khamphone | 12.00-12:05 |
| Wrap up/Closure | DG of NAFRI Provincial Authority | 12.05-12.10 |

The results of the activities on day 1 (28 Apr 2010)

4 Selection Criteria (Day 1)

| No | Natural indicator | Human indicator | Agriculture indicator | Indicators for information |
|--------------------|---|---|--|--|
| Xayabouly Province | | | | |
| 1 | Longer period of dry season, so the rice field activities are affected. Temperature increase/changing | In Botane district there is migration of villagers to other districts because of lack of irrigation systems, and the soil quality is not good | The agriculture area increased, but the yield decreased from 6 T/ha to now only 4 T/ha (Paklai, Kaen Thao, Botane and Thonmyxay districts) | Can be accessed through all-weather road |
| 2 | The amount of rain decreases from 1.607 mm (in 2005) to 1.395 mm (2009) | Livelihood pattern change: rice fields become to corn fields for exporting corn to Thailand | Decreasing water resources - not enough water. (Bortane and Pheing district) | Agriculture extension service in each district, and good data available |
| 3 | Always drought: Paklai, Kaenthao, Bortane, Thongmysay districts , but have experienced more drought days during the last 3 years Flash floods: all 7 district in 2002, 2004, and 2008. Most affected Pheing district. | Flood area: Pheing district Drought areas: 4 districts in the south of Xayabouly province (Paklai, Kaenthao, Bortane, Thongmysay district) | Kaenthao, Bortane districts have soil quality issues because of ploughing on the slope areas | No conflict in the proposed area |
| 4 | The soil erosion areas are in Paklai, Kaenthao, Botane, Thongmysay districts. | Sanamxay, Saysattha and Samakkhy districts have flooded areas and soil erosion, the houses were broken and destroyed, and there is migration of villagers. | | Villagers/farmers have good capacity and willingness to livelihood diversification |

| | | | | |
|-----------------------|---|---|---|--|
| 5 | Forest fires, rats (in 2008-2009): the worst districts: Hongsa and Ngune districts. Floods in 2004 and 2008, the worst districts affected were Paklai and Xienghone districts. | | | Villagers/ farmers are very good in cooperation with any organization or project. Such as: ALIP/IFAD, PASS, PARUA/CARE Int., SUFORD |
| 6 | Forest is destroyed, wildlife decrease, more diseases in agriculture. | | | |
| Luangprabang Province | | | | |
| 1 | Temperature increases, short period of raining season. | | Agriculture production increases in some years. | Nan district can be accessed through all-weather road. Phoukhoun, Xieng Ngune, Phonexay and Chomphet district are difficult to access. Lack of water for irrigation systems in Luangprabang district |
| 2 | The rain comes in the wrong season | The livelihood pattern has changed, now depending on market demand. | Not enough for water for use. Some of the irrigation systems in Luangprabang, Nan, and Chomphet districts do not have enough water. | Good data of the local agricultural extension service, but the staff lacks skill and services |
| 3 | The drought areas are more expanding | Drought prone area with high level of poverty is in Phonxay district . | The soil erosion areas are in Phoukhoun, Xieng Ngune, and Pak Ou districts. | No conflicts in these villages, and the villagers/farmers are happy and willing to adapt new technologies |

| | | | | |
|-------------------|--|---|--|--|
| 4 | The soil erosion on the slop areas. | | | Good cooperation with other projects |
| 5 | The levels of water in catchments are lower than before. | | | Good cooperation with other project |
| 6 | Expansion of diseases in Phonxay district (such as: rats, larvae ...) Decreasing of the natural and biodiversity resources | | | |
| Oudomxay Province | | | | |
| 1 | Temperature from 1990 to 2000 about 16.9 to 28.9 °C Temperature from 2001 to 2010 about 17.4 to 28.8 °C | Migration pattern of population because of: Management for development – relocation of villages from far away. Flood disasters. | The agriculture production decreased: Corn production: 4.5 T/ha (in 2005), to 3.5 – 4 T/ ha (in 2009) Rice production: 3.5 T/ha (2005), to 2.8 – 3T/ha (2009) Quality of soil is not good Lack of techniques Climate variations. Problems with irrigation systems. | Xay, Baeng, and Houn districts can be accessed through all-weather road. |
| 2 | The maximum rain fall from 1999 to 2000 were 1,787.5 mm/year, and the min = 1,095.5 mm/year From 2001 to 2009, the Max = 1,987.4mm/year and the Min = 1,010.6 mm/year | Changing from depending on natural resource to planting (e.g gardens), and livestock raising. More reacting to the market/export. | Decreasing water resources | And Xay, Baeng, and Houn districts have enough data |

| | | | | |
|-------------------------------|---|---|--|--|
| 3 | Flood areas: Xay, La, Houn, Namor districts Drought areas: Houn, Baeng, Nga, and Pak Baeng districts | Flood areas: Xay, La districts Drought areas: Houn, Baeng, and Pak Baeng districts | Soil erosion: Xay district (Kumban Nambak, and Kumban Namkor), and La district (Kumban Nam La, and Kumban Houa Nam Ma) | No conflicts in the proposed area : Kumban Sybounheung (Houn district), and Kumban Phonhome and kumban Lao Chom (Xay district) |
| 4 | The soil erosion and natural disaster found in 4 districts: Xay, La, Nga, and Baeng districts | | | The farmers/villagers in Kumban Nambak (Xay district), and Kumban Xiengdy(Houn district) are prepared for livelihood diversification |
| 5 | Natural disasters: Floods in 1985, and 2008 in Xay, La and Baeng districts. Hail in 2006 in Xay district. Drought in 1999, and 2003 in Nga district. Earthquakes in Xay, Namor and Nga districts. | | | 14 projects in the province |
| 6 | Biodiversity decrease. Drought, not enough water. The forest cover decreased. | | | |
| Luang Nam Tha Province | | | | |
| 1 | The temperature increased: In 1996: 32° C (Max) In 2010 : 34° C (Max) | | Low yields | Some villages can be accessed through the road only during dry season |

| | | | | |
|---|--|--|---|---|
| 2 | The amount of rain fall: In 1985: 1,861 mm/year In 1992: 232.2 mm/year In 2009: 1,419 mm/year | The livelihood pattern has changed, up land rice fields become paddy rice fields and agriculture production for market | The water resources are enough as the farmers would need. | Not enough agriculture extension services. |
| 3 | Drought and flood: Drought in 1991, 1992 and 2010 in Py district Flood in 2002, and 2007-2009 in Nam Tha and Vieng Phou Kha districts | Flood and Drought areas are in Nam Tha and Vieng Phou Kha districts. | Kumban Xieng Khaeng (Sing district) suffers under soil erosion and the soil quality is not good | No conflict in the proposed areas |
| 4 | Soil erosion of the river banks: Nam Tha river; and the soil erosion at the mountain slopes in Nam Tha and Long districts, caused by destruction of the forest | | | Villagers are prepared for livelihood diversification |
| 5 | History of natural disaster: Hail in 2007 in Vieng Phou Kha and Long districts. Storms in 2007 and 2010 Flash floods. | | | Nam Tha district does not have a project Vieng Phou Kha district has a project of SIDA |
| 6 | Biodiversity and natural resource decreases. Low level of water of Nam Tha, Nam Thoung and Nam Ngaen rivers, | | | |

Suggested locations (day 2)

| No | Location | Why is it suggested? | Target group |
|-------------------------------|---|--|--|
| Xayabouly province | | | |
| 1 | Kumban Namphou, Kumban Nong Phak Bong. (Botane district) | <ul style="list-style-type: none"> • There are drought areas; the quality of soil is not good. • Flash flood events • Low rice yield from 6 T/ha – now only 4 T/ha • Access through all-weather road • The main activity of villagers is agriculture (rice fields and corn farms) | Botane district: <ul style="list-style-type: none"> • Area= 1,097 km² • 28 Kumbans • Agriculture area = 15,610.82 Km² • Population = 17,499. • F = 8,775. M = 8,724 |
| 2 | Kumban Meung Pheing, Kumban Naxing, Kumban Phonesaath. (Phieng district) | <ul style="list-style-type: none"> • Droughts and floods in this district • Have irrigation systems, but not enough water • Low yield | Phieng district: <ul style="list-style-type: none"> • Area= 2,826 Km² • 53 Kumband • Agriculture area = 32,720.14 ha • Population = 52,753. • F = 25,998. M = 26,755 |
| 3 | Kumban Pha kea, Kumban Bounma, Kumban. (Pak Lai district) | <ul style="list-style-type: none"> • Droughts and flood in this district • Low yield • Have irrigation systems, but not enough water • Always flash floods • The main agriculture activities are corn farming, and peanut farming | Pak Lai district: <ul style="list-style-type: none"> • Area= 2,416 Km² • 71 Kumbans • Agriculture area = 33,089.28 ha • Population = 63,884. • F = 31,320. M = 32,564 |
| Luang Nam Tha Province | | | |
| 1 | Nam Tha district – Pong, Pasak, Nanoy and Mai villages | <ul style="list-style-type: none"> • Drought area • Low yield from 3.5 T/ha, but the present yield is only 1.5 T/ha • Erosion – agricultural land reduction | Nam Tha district: <ul style="list-style-type: none"> • Population = 48,301. • F = 24,240. M=24,061 • HH = 9,644. • Total number of households farming = 7,779 • Area = 230,400 ha • Average size (in ha) of smallholder land / farm = 2.2 ha/HH • %of farms with pond= 10% • % of farms with irrigation systems= 75% |
| 2 | Nam Tha district - Luang, Donekhoun, Tha Or, and Mai villages | <ul style="list-style-type: none"> • These villages are in flood areas • Erosion – Agricultural land reduction | |
| 3 | Long district – Luang Pha Kha, chom Chaeng, Aisaeng | <ul style="list-style-type: none"> • Erosion – Agricultural land reduction affects agriculture production | |

| Oudomxay Province | | | |
|--------------------------------|--|--|---|
| 1 | Xay district – Kumban Nam Bak | <ul style="list-style-type: none"> • Xay district is drought area, with high level of poverty (about 45%) • This area has slash and burn agriculture, and the forests have been destroyed • Not enough rice for consumption for 6 – 8 months • Erosion areas, the soil quality is not good, and low yields • Not enough water in the irrigation systems • Lack of funds, knowledge, and good seeds | <p>Xay district includes:</p> <ul style="list-style-type: none"> • 99 villages, 12 Kumbanw • HH = 12,443 • Families = 15,418 • Population = 71,139. F = 35,153 <p>Kumban Houa Nam Bak:</p> <ul style="list-style-type: none"> • Area = 9,720 ha • 3 villages • Population = 2,798. F = 1,195 • HH = 418 • 2 ethnic groups = Khmu, Mong |
| 2 | La District – Viengkham, Donsaath, and Tang Ngaey villages | <ul style="list-style-type: none"> • These areas are low and near the river. Thus they are flooded every year. • Erosion of the river banks • Not enough water in the irrigation systems • Lack of funds, knowledge, good seeds • Quite difficult, slow to adopt information | <p>La district :</p> <ul style="list-style-type: none"> • 44 villages. 9 Kumbans • HH = 2,899 • Population = 16,959. F = 8,570 • 4 ethnic groups = Keum Mou (57%), Lao (16%), Mong (2%), Akha (25%) • Density = 9 persons/km² |
| Luang Pra Bang Province | | | |
| 1 | Xieng Ngeun district – Kumban Sobjune | <ul style="list-style-type: none"> • Drought area • Soil erosion • Diseases on plants and animals • These areas are on the mountain • The main agriculture activities are up-land rice, corn gardens | <p>Xieng Ngeun district:</p> <ul style="list-style-type: none"> • 70 villages • HH = 5,684 • Population = 32,116. F = 16,273. M = 15,843 • Area = 1,210 Km² • Density = 27 person/Km² |
| 2 | Luang Pra Bang district – Kumban Kok Van, and Kumban Xaen Kha Lok | <ul style="list-style-type: none"> • Drought and flood areas • Diseases on plants and animals | <p>Luang Pra Bang district:</p> <ul style="list-style-type: none"> • 116 villages • HH = 14,066 • Population = 80,808. • F = 39,838. M = 40,970 • Area = 818 Km² • Density = 99 persons/ Km² |
| 3 | Nam Bak district – Kumban Nayang | <ul style="list-style-type: none"> • Drought and flood areas • Diseases on plants and animals • Erosion • The main agriculture activity is paddy rice | <p>Nam Bak district:</p> <ul style="list-style-type: none"> • 83 villages • HH = 11,282 • Population = 65,455. • F = 32,779. M = 32,685 • Area = 1,524 Km² • Density = 43 persons/Km² |

Stakeholder analysis

| No | Organization | Location | Stakeholder Groups | Resource/Mandate | Possible support | Issue/Problem |
|-------------------------------|---------------------------|------------------------|--------------------|---|---------------------------------|---|
| Xayabouly Province | | | | | | |
| 1 | PAFO & DAFO | | GoL | | Technical support | Lack of equipment Lack of funds |
| 2 | PWREO and DWREO | | GoL | Collecting data on natural resources Collecting hydrological and meteorological data | Data support | Lack of equipments Lack of funds Not enough technical staff |
| 3 | Land use authority office | District and Province | GoL | Land use planning and management | | Lack of equipment |
| 4 | PDMO & DDMO | | GoL | Collecting data on disasters | Data support | Lack of equipment and funds |
| 5 | Traders and Banks | | | Loans for farmer | Market orientation | Limited markets |
| 6 | Farmer community | | Villagers | | | Lack of the seeds Lack of funding Lack of knowledge and skill |
| Luang Nam Tha Province | | | | | | |
| 1 | PAFO & DAFO | Province, district | GoL | Support technicians for the agriculture, livestock and irrigation | Support technicians | Lack of funding, and vehicles. Not enough technical staff. |
| 2 | DDMO and PDMO | | GoL | | | Not enough technical staff |
| 3 | Land use authority | Province, and district | GoL | Land use planning. Provision of the land titles | | Not enough technical staff |
| 4 | Women Union | Province, and district | GoL | Awareness and capacity building | Awareness and capacity building | Not enough technical staff |
| 5 | Community | | | | Human resources | |
| 6 | NCA, ADRA | District | | | | |

| Oudomxay Province | | | | | | |
|-------------------------|---|--|-----|---|--|--|
| 1 | PAFO and DAFO | | GoL | Agriculture | Technical support | Lack of funds |
| 2 | Land use authority | | GoL | Land use management, and give the land certificate and land title | Technical support | Lack of funds and technologies |
| 3 | PDMO / Provincial Labor and Social Welfare office | | GoL | | Technical support | Lack of funds and technologies |
| 4 | PWREO, DWREO | | GoL | Natural resource management | Technical support | Lack of knowledge and technologies |
| 5 | Provincial Industry and Commerce Office | | GoL | | Market linkage | |
| 6 | Provincial Transportation Office | | GoL | | Transportation infrastructure | |
| Luang Pra Bang Province | | | | | | |
| 1 | PAFO and DAFO | | GoL | Provide agriculture, livestock and irrigation technologies | Agriculture, livestock and irrigation techniques | Lack of knowledge Not enough technical staff Lack of funds |
| 2 | Land use authority | | GoL | Land Use Management | | Lack of knowledge Not enough technical staff Lack of fund |
| 3 | PWREO, DWREO | | GoL | Water Resource Management | | Lack of knowledge Not enough technical staff Lack of fund |
| 4 | Women Union | | GoL | Awareness and capacity building | Awareness and capacity building | Lack of knowledge Not enough technical staffs Lack of fund |
| 5 | PDMO / Provincial Labor and Social Welfare office | | GoL | Data on natural disasters | | Lack of knowledge Not enough technical staff Lack of fund |
| 6 | Provincial Industry and commerce Office | | GoL | Information about the market | Information about the market | Lack of knowledge Not enough technical staff Lack of fund |
| 7 | Farmers | | | | Motivation | |

List of participants

| No | Name | Position | Institution | Telephone & Email |
|---------------------------|---------------------------|---------------------------------------|--------------------------------------|--|
| NAFRI | | | | |
| 1 | Dr. Bounthong Bouahouam | Director of NAFRI | NAFRI | |
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| Xayabouly Province | | | | |
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| 2 | Mr. Soulisack Khamone | Head officer | Provincial Youth Union | 020 55978054 |
| 3 | Mr. Khamphan Seantham | Head of agriculture develop community | Agriculture dev community | 020 55677090 |
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| 5 | Mr. Somvang Vilayphan | Vice of DAFO | DAFO in Xay district | 020 2376459 |

| | | | | |
|------------------------------|----------------------------|---------------------------------|-------------------------------|--|
| 6 | Mr. Sysouphan Singphavanh | Vice of Planning Division | Planning Division. PAFO | 020 99971669, 020 99966697 |
| 7 | Mr. Khamxay Seadtheung | Vice of Planning Division | Provincial Land Use Authority | 020 2834499 |
| 8 | Ms. Somchan Phongsavath | Vice of PWREA | PWREA | 020 56588213 |
| Luangnamtha Province | | | | |
| 1 | Mr. Khammouan Jorkamcheue | Vice of PAFO | PAFO | 020 2390128 |
| 2 | Mr. Tuang Namvongsa | Technical staff | Planning Division, PAFO | 202390071 |
| 3 | Mr. Bounkeo Xayyaseng | Vice of DAFO | DAFO in Namtha district | 020 55979879 |
| 4 | Ms. Chan Khamphavong | Technical staff | DAFO in Namtha district | 020 55686570 |
| 5 | Mr. Phengsavath | Vice of Land Use Authority | Provincial Land Use Authority | |
| 6 | Mr. Somboune | Technical staff | Provincial Land Use Authority | |
| 7 | Mr. Bounmy | Vice of PDMO | PDMO | |
| 8 | Mr. Xayphachan | Technical staff | PDMO | |
| Luangprabang Province | | | | |
| 1 | Mr. Bounpheng Vongpanya | Vice of PWREA | PWREA | 020 2355261 |
| 2 | Mr. Xayaphan Lasy | Vice of PAFO | PAFO | 020 23050415 |
| 3 | Mr. Bounlad | Head of Land Use Authority | Provincial Land Use Authority | 020 2357760 |
| 4 | Mr. Chanthay Sonemany | | | 020 55970497 |
| 5 | Ms. Sommai Mongkuthdeth | Head of Disaster Management | PDMO | 020 5771748 |
| 6 | Mr. Somvang Phommakone | Head of PAFO | PAFO | 020 2350961 |
| 7 | Mr. Donengiem Khammyphonh | Technical staff | PAFO | 020 5685692 |
| 8 | Mr. Xang Xanaphon | Head of Forest Division | Forest Division, PAFO | 020 5771316 |
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Annex 3: Stakeholder Involvement Plan

Main Stakeholder Groups

National Level

- National Steering Committee on Climate Change
- Climate Change Secretariat
- Line Agencies: MAF, WREA, NLMA, NDMO (MLSW), Meteorology and Hydrology, others
 - MAF: NAFRI, NAFES, Planning, Agriculture, Livestock and Fisheries, Forestry, Irrigation
- UN and similar Organizations
 - UNDP, FAO, UNEP, MRCS
- Donors
 - WB, ADB, IFAD, EU, different bilateral donors
- INGOs and NGOs (NSAs)
 - IUCN, WWF, local NGOs
- Main projects
 - Co-financing partner projects (UNDP, ACIAR, SDC, Worldbank)
 - Northern Uplands Programme (AFD, EU, SDC, GTZ)
 - Sustainable Natural Resource Management and Agricultural Productivity Project (ADB, IFAD)
 - Entities associated to NAFRI (UAFRP, IWMI, Conservation Agriculture, etc.)
 - Others

Provincial Level

- GoL: Governor's Office, PAFO, PAFES, PAFRI, PDMC, other departments
- Other projects

District and Village Level

- GoL: District Administrator, DAFO, Kumban TSC
- Other projects
- Communities, farmer organizations, women's and youth organizations, CBOs

Stakes and Contributions

On national level the 'stakes' are strategic and operational advice for all components; and technical support (if possible) is expected for components 1, 2 and 4. For component 3 the national level maintains coordination of the overall component planning.

On provincial level the stakes relate to operational coordination and technical support for all project components; especially for component 3 across all relevant departments, provincial organizations and projects. A prominent role of the Governor's office is envisaged.

On district and village level coordination of services, supplies and inputs – if required - into components 1 and 2 is expected, plus substantial implementation and monitoring functions for component 3. A central entity in the

unfolding project implementation process will gradually be the Technical Service Centres on Kumban (cluster village) level.

A clear and distinct primary (formal) information and reporting line runs from the TSC on Kumban level to the DAFO, from there via PAFO (PAFRI office) to the MAF (NAFRI); or vice versa. Main stakeholder coordination takes place on national level through the Project Board and/or the PM/PSU; and the Project Task Force (PTF) representing a pool of technical experts from MAF departments, GoL agencies, NGOs, and others. On provincial level a “Local Integration Platform” will be set up, meeting quarterly under the chairmanship of the provincial authorities, and monthly under the guidance of PAFO/DAFO in the target districts. The LIP committees are encompassing relevant parties on provincial, district and village levels (including community-based organizations).

A variety of contributions (thematically, technically, logistically, in-kind, co-finance) are welcomed in the implementation of the CC Agricultural Adaptation programme.

The stakes and interest of a general audience and of global partners will be addressed and served through outcome 4 / component 4.

Informal stakeholder engagement may take place at any time and any location within the operational terms and guidelines set out by the project at start of implementation.

Stakes / Contributions by Main Agency

| | Role in PPG | Anticipated Role in Implementation |
|--|---|---|
| National Steering Committee on Climate Change | Still in concept phase | Overall Strategy and Policy Advice, part of AA2CC network |
| Climate Change Secretariat | Data, information, situational update, individual discussions | Overall Strategy and Policy Advice, Data, Information, part of AA2CC network |
| Line Agencies: WREA, NLMA, NDMO (MLSW), Meteorology and Hydrology, others | Data, information, situational update, participation in workshops | Board member (Ministry) Sub-contractor for selected activities |
| MAF: NAFRI, NAFES, Planning, Agriculture, Livestock and Fisheries, Forestry, | Data, information, situational update, participation in workshops | Board member (Ministry), Executing, Agency, Implementing Agency, |
| UNDP, FAO, UNEP, MRCS | Data, information, situational update, participation in workshops | UNDP: Board Member Strategic advice Cross-fertilization with own projects |
| WB, ADB, IFAD, EU, different bilateral donors | Situational update, participation in workshops | Information supply Strategic advice Source for co-finance |
| IUCN, WWF, local NGOs | Data, information, situational update, participation in workshops | Data, Information, Technical Advice, part of AA2CC network |
| Main projects: | | |
| Co-financing partner projects (UNDP, ACIAR, SDC, Worldbank) | Situational update, participation in workshops | Cross-fertilization, Data, Information, Technical Advice, part of AA2CC network |
| Northern Uplands Programme (AFD, EU, SDC, GTZ) | Data, information, situational update, individual discussions | Data, Information, Technical Advice, part of AA2CC network |
| Sustainable Natural Resource | Data, information, situational | Data, Information, Technical Advice, |

| | | |
|--|---|--|
| Management and Agricultural Productivity Project (ADB, IFAD) | update, individual discussions | part of AA2CC network |
| Entities associated to NAFRI (UAFRP, IWMI, Conservation Agriculture, etc.) | Data, information, situational update, individual discussions | Cross-fertilization, Data, Information, Technical Advice, part of AA2CC network |
| Province: | | |
| GoL: Governor's Office, PAFO, PAFES, PAFRI, PDMC, other departments | Data, information, situational update, participation in workshops | Provincial guidance, Organizational Support, Local Project Promotion, Local Trouble-shooting |
| GoL: District Administrator, DAFO, Kumban TSC | Data, information, situational update, participation in workshops | District guidance, Organizational Support, Local Project Promotion, Local Trouble-shooting |
| Communities, farmer organizations, women's and youth organizations, CBOs | Data, information, situational update, participation in workshops, interviews during field visits | Local Promotion, Participation in Implementation, Participatory Monitoring, Awareness Creation |
| Small local NGO Projects | Information, situational update, interviews during field visits | Local Promotion, Participation in Implementation, Participatory Monitoring, Awareness Creation |
| Individual farmers | Information, situational update, interviews during field visits | Local Promotion, Participation in Implementation, Participatory Monitoring, Awareness Creation, Farmer to Farmer extension |

Type and Frequency of Formal Stakeholder Involvement during Full Implementation Period

| | | Frequency | Implementing Partners | GoL Agencies | Donors | UN Organizations | Other Projects | NGOS/NSAs | CBOs |
|--------------------------------|-----------------------------------|--------------|-----------------------|--------------|--------|------------------|----------------|-----------|------|
| <i>National level</i> | | | | | | | | | |
| | Board Meeting | 2 x per year | X | X X | X | X X | X | X | |
| | Formal PSU Meeting | Bi-weekly | X | X X | | | | | |
| | Project Task Force PTF | Bi-monthly | X | X | | | X | X | X |
| | Adaptation Learning Workshops | Annually | X | X X | X | X X | X | X | |
| <i>Provincial level</i> | | | | | | | | | |
| | LIP Technical Working Group North | Quarterly | X | X X | | X X | X | X | X |
| | LIP Technical Working Group South | Quarterly | X | X X | | X X | X | X | X |
| <i>District / Kumban level</i> | | | | | | | | | |
| | Local Integration Platform North | Monthly | X | X X | | | X | X | X |
| | Local Integration Platform South | Monthly | X | X X | | | X | X | X |

Legend:**X = statutory****X = by invitation**

Annex 4: Capacity Assessment Key Institutional Stakeholders

| Stakeholder | Mandate / responsibility | System capacity | Institutional capacity | Human capacity |
|---|---|---|---|--|
| MAF | MAF is responsible for all aspects related to agriculture and forestry. All of its departments are relevant to the adaptation of the agricultural sector to climate change. | Mature Ministry with long tradition. Legal, policy and procedural frameworks within which institutions and individuals operate to steer and implement AA to CC. Several plans with strategic orientation but no valid A+F strategy. | Ability to operate effectively within the given system on all AA policies and measures related to CC. To be further developed: Institutional audits Internal management guidelines Improved working conditions provinces and districts (e.g. tools and means of communication) | Significant number of technical staff across the whole country on all administrative levels will facilitate project outreach. Comparative ease of multiplication and replication. Award schemes that identify and reward good practices to be developed. |
| MAF National Agriculture and Forestry Research Institute (NAFRI) | NAFRI's primary task is to design, implement and coordinate all agriculture and forestry research in Lao PDR. Its main responsibilities are to: 1. Undertake natural resource assessments and socio-economic studies 2. Improve and manage plant and animal genetic resources through selection, multiplication and production of varieties 3. Research on forages and fodder trees, improved use of feed to improve smallholder | Can provide policy and procedural frameworks Strategic Plan 2010 Research Plan 2012 Business Development Plan (new) Cohesive organizational structure High potential to link adaptive research with adaptive activities High potential for networking | CC relevant areas: Commodity based research: rice research, aquaculture and wetlands management, livestock husbandry and production improvement, and animal nutrition and health, Research on natural resource management: forestry and natural resource management, including soil and water management, agro-forestry, forestry ecology and community-based forest management Cross-cutting research: seed multiplication, genetic resource management and agriculture biodiversity, plant protection, post harvest processing, and farming systems research. Method development: developing new methods and processes with extension | Qualified staff in different research centers in Vientiane HQ and in regional centers Qualified staff in different projects implemented under NAFRI, e.g. URDP Qualified staff in different institutions within the NAFRI framework: IWMI, IRRI, Conservation Agriculture Good IT and language skills. Experience working in a project mode and with international staff |

| Stakeholder | Mandate / responsibility | System capacity | Institutional capacity | Human capacity |
|---|---|--|---|--|
| | <p>production, and promote industrial processing of products</p> <p>4. Adopt agriculture, forestry and fisheries research strategies to the government economic development programs.</p> <p>5. Produce and disseminate information on agriculture, forestry and fisheries practices and technologies.</p> <p>6. Coordinate agriculture research within Laos and collaborate with international organizations to improve information sharing.</p> | <p>with Lao PDR</p> <p>High potential for international networking</p> <p>Good potential for innovation</p> | <p>services, such as: Land use planning, market analysis and development, agro-ecological analysis, formation of community based organizations.</p> <p>Marketing and socio-economic research: understanding value chains, agro-enterprise development, livelihood and gender focused research, and indigenous knowledge</p> <p>Policy based research: identifying key challenges facing policy-makers and then synthesizing in a manner that is relevant and easily understood, providing feedback on policy implementation through workshops and research studies.</p> <p>Information services and networking: library services, data management, GIS, ICT, the packaging and dissemination of research results and strengthening coordination between different actors in the agriculture sector particularly with the National Extension Service.</p> | <p>High motivation</p> <p>Practical guidelines to assist interactions between key players in process to be developed</p> <p>Monitoring and review of the effectiveness of the components to be developed</p> |
| | | <p>Platforms that facilitate regular professional debate and policy dialogue between the key stakeholders (e.g. professional networks or regular conferences to review and discuss states of practice)</p> <p>Pilot projects that test proposed changes in legislation or guidance, are implemented as part of inter-institutional learning and involve local expert through on-job training</p> | | |
| <p>MAF National Agriculture and Forestry Extension Service</p> | <p>Nationwide GoL/MAF extension service; organizing training and providing advice on a wide range of subjects: crops, livestock, soils, forestry and irrigation. Staff at District level are generalists who</p> | <p>Pending on quality of technical inputs, outputs, services</p> | <p>Develop organizational performance and functioning capabilities on technical level</p> | <p>Nation-wide presence</p> <p>Experience working in a project mode and with international staff</p> <p>Practical guidelines to assist interactions between key players</p> |

| Stakeholder | Mandate / responsibility | System capacity | Institutional capacity | Human capacity |
|---|---|---|--|---|
| (NAFES) | support the Village Extension System (VES) and are supported by specialists at the Provincial level. | | | in process to be developed |
| MAF Department of Agriculture (DoA) | Control, inspect and develop national plant protection activities including their harmonization with those of neighbouring countries. Create and develop relevant information systems on agriculture and propagate and deliver these systematically at the village and village cluster level, provide capacity building and training for technical officials in the agriculture sector and cooperate with national and international agencies to develop best practices in agriculture. | Pending on quality of technical inputs, outputs, services | Develop organizational performance and functioning capabilities on technical level | Practical guidelines on AA + CC to assist technical implementation to be developed |
| MAF Department of Livestock and Fisheries (DLF) | DLF's mandate is "Developing and implementing policies, strategies, work plans concerning livestock and fisheries management and related to veterinary medicine, producing information material, provide monitoring & evaluation, evaluate and implement regulations, decrees, instructions and technical advice concerning livestock and fisheries as well as veterinary | Pending on quality of technical inputs, outputs, services | Develop organizational performance and functioning capabilities on technical level | Practical guidelines on livestock, fisheries + CC to assist interactions between key players in process to be developed |

| Stakeholder | Mandate / responsibility | System capacity | Institutional capacity | Human capacity |
|---|--|---|--|---|
| | medicine.” | | | |
| MAF Department of Irrigation | Construction and water management for irrigation schemes, survey, design and repair the systems. | Pending on quality of technical inputs, outputs, services Performance in water management | Develop organizational performance and functioning capabilities on technical level | Practical guidelines on AA + CC to assist technical implementation to be developed |
| MAF Department of Forestry Inspection (DoFI) | Has overall responsibility for forestry and includes management of the Nature Conservation areas. Forestry is directly responsible to fulfill commitments related to CC. | Pending on quality of technical inputs, outputs, services. | Develop organizational performance and functioning capabilities on technical level | Practical guidelines on AA + CC to assist technical implementation to be developed |
| MAF Department of Planning (DoP) | Has the overall responsibility for the elaboration of ANR sector plans (e.g. in the context of NSEDP's) and policies, based on the contributions from the different technical departments. | Elaborate policy and regulatory frameworks to improve inter-institutional coordination | Ability to operate effectively within the given system / MAF Guidelines to assist interactions between key players. Monitoring and review of the effectiveness of the project. | Skilled and experienced in policy development, project planning |
| MAF Provincial Agriculture & Forestry Office and the District Agriculture & Forestry Office (PAFO and DAFO) | Implementation of MAF activities at Provincial and District levels. This includes staff assigned to agriculture, forestry, extension and protected areas. | Most important platforms for local integration of activities (province, district, kumban). Most important role for all decentralized MAF activities. Essential for provincial coordination. | Develop organizational performance and functioning capabilities on technical level in provinces, districts and kumbans (technical service centres TSC) | Motivated staff Limited professional skills Experience working in a project mode and with international staff |

| Stakeholder | Mandate / responsibility | System capacity | Institutional capacity | Human capacity |
|---|--|---|--|--|
| | | Pending on quality of technical inputs, outputs, services. | | |
| The Water Resources and Environment Authority (WREA) | Overall responsibility of implementing government policy related to water resources and environment. Its two main departments are the Department of Environment (DoE), and the Department of Water Resources (DoWR), which includes the Lao National Mekong Committee (LNMC). It merges the environment functions of the former Science Technology and Environment Agency (STEA), the Water Resources Coordination Committee (WRCC) and the Lao National Mekong Committee Secretariat (LNMCS). | Under PM office The DoE also acts as the secretariat to the coordinating National Environment Committee (NEC) and climate change. Develop overall legislative, policy and regulatory frameworks Improve inter-institutional coordination Good potential for innovation | Ability to operate effectively within the given system and wide range of different tasks and themes Coordination challenges | Motivated and dynamic staff Limitations office space Logistical challenges Limited presence in districts Experience working in a project mode and with international staff |
| WREA Department of Meteorology and Hydrology | Collection and dissemination of M+H information: weather situation, climate records, water level records. | | | Skills & expertise of individual persons |
| | | Platforms that facilitate regular professional debate and policy dialogue between the key stakeholders (e.g. professional networks or regular conferences to review and discuss states of practice) Pilot projects that test proposed changes in legislation or guidance, are implemented as part of inter-institutional learning and involve local expert through on-job training | | |

| Stakeholder | Mandate / responsibility | System capacity | Institutional capacity | Human capacity |
|---|--|---|---|--|
| The National Land Management Authority (NLMA/ PMO) | Main functions include the coordination of land management across sectors, land management and administration tasks for land – including registration, valuation, survey, allocation, zoning, land use planning, lease and concession, issuing of Land Survey Certificate and Land Title; collecting statistical data on land and inspecting land use. | Under PM office Develop overall legislative, policy and regulatory frameworks Improve inter-institutional coordination Good potential for innovation | Challenged to operate effectively within the given system and wide range of different and competing interests Coordination challenges Technology challenges | Human resources capacity development Skills & expertise of individual persons Limited presence in districts |
| The National Disaster Management Committee / Office (MLSW) | Coordination of all disaster related operations on national level | Under Ministry of Labour and Social Welfare Legal, policy and procedural frameworks within which institutions and individuals operate | Challenged to operate effectively within the given system and wide range of disaster management issues To be developed further: Practical guidelines to assist interactions between key players on national, provincial and local levels Monitoring and review of the effectiveness of the entire system | Human resources capacity development Limited presence in districts Experience working with international organizations, e.g. IRC |

List of NAFRI staff based on background and degree qualification.

| Field/background | PhD degree | Msc degree | Bsc degree | Diploma or equivalent | Total |
|--------------------------|------------|------------|------------|-----------------------|-------|
| Administration | 0 | 0 | 3 | 23 | 26 |
| Agricultural Business | 3 | 1 | 0 | 0 | 4 |
| Agricultural engineering | 0 | 0 | 1 | 16 | 17 |

| Field/background | PhD degree | Msc degree | Bsc degree | Diploma or equivalent | Total |
|--|-------------------|-------------------|-------------------|------------------------------|--------------|
| Biology | 0 | 1 | 1 | 3 | 5 |
| Agriculture | 3 | 16 | 14 | 57 | 90 |
| Environment | 1 | 3 | 0 | 0 | 4 |
| Fishery | 1 | 11 | 1 | 7 | 20 |
| Forestry | 0 | 15 | 15 | 38 | 68 |
| Geographic Information System | 1 | 0 | 3 | 0 | 4 |
| Information and Communication Technology | 0 | 0 | 1 | 0 | 1 |
| Livestock | 0 | 9 | 2 | 12 | 23 |
| Meteorology | 0 | 0 | 1 | 1 | 2 |
| Rural Development | 0 | 3 | 0 | 0 | 3 |
| Soil Science | 2 | 9 | 7 | 0 | 18 |
| | | | | | 285 |

Annex 5: UNDP Risk Log

| LFM level | Description of the risk | Potential consequence | Countermeasures / management response | Type (risk category) | Probability Impact (high-medium-low) | Owner | Submitted updated by | Last Update | Status |
|-----------|--|--|--|-------------------------------------|--------------------------------------|--|----------------------|-------------|--------|
| PO | CC adaptation process is externally driven (donor driven) | Process will stop when donor funding stops | Donor TWGs to negotiate GoL budget contribution | Political Institutional | P=m I=h | GoL UN Donor | | | |
| PO | CC manifests itself as sudden natural disasters | Emergency situation will eliminate development efforts and targets | Dual strategy for disaster management and agricultural adaptation | Political Institutional Operational | P=h I=h | GoL UN Donor | | | |
| PO | CC appears outside adaptive flexibility for agriculture | Farmer will give up farming and/or leave the area: poverty increase | Land use planning with identification of retention areas | Political Institutional Operational | P=m I=h | GoL / MAF UN Donor | | | |
| PO | Tangible economic benefits from AA are miniscule for agricultural households | Farmer will give up farming and/or leave the area: poverty increase | Livelihood diversification strategies – small enterprise development – vocational training | Political Institutional Operational | P=h I=h | GoL / MAF UN Donor Household | | | |
| PO | Competing economic interests erode base and options for AA to CC | Short-term gains and long-term damages | UN, GoL, international community to articulate political responses | Political Institutional | P=h I=h | GoL UN Donor | | | |
| PO | Reduced access to sufficient land and water | Farmer will give up farming and/or leave the area: poverty increase | Management will raise the issue on policy level | Political Institutional Operational | P=m I=h | GoL UN Donor | | | |
| PO | Population growth | Constraints on availability of natural resources | Management will raise the issue on policy level | Political Institutional Operational | P=m I=h | GoL Household | | | |

| LFM level | Description of the risk | Potential consequence | Countermeasures / management response | Type (risk category) | Probability Impact (high-medium-low) | Owner | Submitted updated by | Last Update | Status |
|-----------|--|--|--|-------------------------------------|--------------------------------------|---|----------------------|-------------|--------|
| | | | | | | | | | |
| O1 | Many uncoordinated actors on CC matters | Unclear or overloaded mandates and competency | Support potential implementation guidelines for national CC strategy | Political Institutional Operational | P=h I=m | GoL UN Project | | | |
| 1.1 | Complex technical and administrative needs of Knowledge Management | System depending on experts and unsustainable routines | Development process guided by local users only | Institutional Technical | P=m I=h | MAF NAFRI CC Office | | | |
| 1.2 | Insufficient local expertise on scenario composition and analyses | No relevance for Lao PDR | Quality selection and intensive training local staff, Cooperation with MRCS | Institutional Technical | P=m I=m | NAFRI Project | | | |
| 1.3 | Slow progress because of required institutional arrangements | Output not achieved before end of project | MoU with NLMA | Institutional Operational | P=m I=m | NLMA MAF/NA FRI Project | | | |
| 1.4 | Complex organizational arrangements between WFP, WREA, NDMO, NAFRI, others | Output not fully operational before end of project | Special attention by Board, MoUs with relevant parties, Operational Guide by project | Institutional Operational | P=h I=h | Board UN MAF/NA FRI Project | | | |
| O2 | Insufficient transfer of training into action | Weak framework and guidance for field activities under Outcome 3 | Training sessions to generate practical technical methodologies | Operational Technical | P=h I=h | MAF/NA FRI Project | | | |
| 2.1 | Large number of potential candidates for training | Priorities lost | Training needs assessment and technical prioritization | Operational Technical | P=m I+m | NAFRI Project | | | |

| LFM level | Description of the risk | Potential consequence | Countermeasures / management response | Type (risk category) | Probability Impact (high-medium-low) | Owner | Submitted , updated by | Last Update | Status |
|-----------|--|---|--|-------------------------------------|--------------------------------------|---------------------------|------------------------|-------------|--------|
| 2.2 | No overview on relevant strategies, policies, plans | Priorities lost | Specific assessment mission by consultant in early phase of project implementation | Institutional Operational | P=h I=m | Board Project | | | |
| 2.3 | Lack of experience on practical adaptation options for small-scale agriculture | Project activities will not be effective | Several technical missions by international and local consultants | Operational Technical | P=h I=h | Board Project | | | |
| 2.4 | Training for desk-officers only | No or late real-time response in actual disaster situations | Practical exercises by communities on the ground | Institutional Operational Technical | P=h I=h | NDMO DDMC Project | | | |
| O3 | Lack of experience and knowledge in community organizing for agricultural extension | Communities reluctant to adopt technology | Recruitment of experienced local staff of high relevance. Technical missions by international and local consultants. | Institutional Operational Technical | P=h I=h | NAFES NAFRI Board Project | | | |
| 3.1 | Insufficient knowledge on traditional and indigenous techniques and livelihood coping strategies | Valuable knowledge of the past may be lost | Specific assessment mission by consultant in early phase of project implementation | Operational Technical | P=h I=m | Board Project | | | |

| | | | | | | | | | |
|-----|---|--|---|---|------------|------------------------------------|--|--|--|
| 3.2 | Agricultural supply chains concentrated in the hands of a few companies or dealers. Difficult cross-border transfer of new varieties / species. | Insufficient and untimely supply of new and high quality inputs. | Specific assessment mission by consultant in early phase of project implementation Policy guidance by GoL and MAF envisaged. | Political Institutional Operational | P=h I=h | GoL MAF Board Project | | | |
| 3.3 | Weak delivery by extension staff, other implementers | Innovations do not reach target groups | Strict field monitoring | Operational Technical | P=m I=h | NAFES Project | | | |
| 3.4 | Farmers unwilling to adopt new technologies | Field activities under Outcome 3 are not effective | Recruitment of experienced local staff of high relevance. Technical missions by international and local consultants. | Institutional Operational Technical | P=m I=h | MAF NAFES NAFRI Project | | | |
| 3.5 | High cost of physical adaptation measures | Limited number of physical interventions | Standardization, setting of per unit cost, strict field monitoring | Operational Technical | P=h I=h | MAF Implementer s Project | | | |
| 04 | Very diversified stakeholder groups with wide range of different interests and needs | Actual lessons learned might not become visible, no priorities | Detailed communication strategy in early phase of project | Operational Technical | P=h I=h | UN NAFRI Project | | | |
| 4.1 | M+E system too complicated | Plenty of data, no analyses | Careful and cautious design of data management and work flow – link with O1 | Operational Technical | P=m I=h | Board NAFRI Project | | | |
| 4.2 | Conferences have low CC AA relevance | Waste of resources | Careful and long-term planning with clear and tangible objective. Collaboration with other regional organizations. | Institutional Operational Technical | P=l I=m | MAF UN Board Project | | | |

| | | | | | | | | | |
|-----|---|-----------------|--|---|------------|-------------------------|--|--|--|
| 4.3 | Many uncoordinated actors on CC matters | Slow acceptance | Support potential implementation guidelines for national CC strategy | Institutional Operational Technical | P=m I=m | GoL Board Project | | | |
|-----|---|-----------------|--|---|------------|-------------------------|--|--|--|

Annex 6: International Technical Assistance / Consultants

Guiding principles for deployment of international technical assistance (ITA)

Long-term:

- Support for strategic orientation with AA2CC focus to ensure that project does not develop into a standard agricultural extension or rural development project
- Support to overall management to avoid fragmentation of project into isolated contractual bits and pieces implemented by different stakeholders and partners with weak coordination
- Provision of technical inputs for all components

Short-term:

- Solid provision of international technical expertise related to AA2CC based upon evolving technical discussion and knowledge from all-over the world
- Immediate practical application of results from a mission into ongoing project implementation

Long- and short term:

- Decision-making within the national structure
- Training-on-the job for all national counterparts

| Component | Title | Main Tasks | Duration Year |
|-----------|--|--|-------------------------------------|
| All | STA/Team Leader Resilience of Agriculture Sector to Climate Change (CC) | <ul style="list-style-type: none"> • Support to maintain strategic direction towards AA2CC for all components • Support overall management • Technical inputs for all components • Management of international TA • Support work planning and reporting | 40 person-months over 4 years |
| C1 | Land Use Planning for CC | Guide the production of 2 district land use plans through NLMA with focus on AA2CC | 2 person-months early 2011 |
| C1 | Early warning systems for agriculture and CC hazards | Streamline existing elements of early warning with NDMO, focus on AA2CC | 2 person-months early 2011 |
| C1 | CC scenario analysis for Lao PDR | Assist to analyze and develop specific CC scenarios for Lao PDR and train local NAFRI staff on the job | 2x2 person-months mid 2011 and 2013 |
| C2 | Training Needs Analysis for Agriculture Adaptation to Climate Change (AA2CC) | Analyze AA2CC training needs of staff in MAF, PAFO, DAFO, TSCs, NLMA, NDMO, etc. and prepare training plan | 2 person-months early 2011 |
| C2 | Institutional development for mainstreaming CC within MAF/GoL | Analyze details for mainstreaming AA2CC issues across institutions and sectors in Lao PDR and initiate support measures through MAF, WREA, others | 2 person-months mid 2011 |
| C2 | Training in curricula development for AA2CC | Assist to develop curricula for AA2CC training with NAFES officers and | 2 person-months mid 2011 |

| Component | Title | Main Tasks | Duration Year |
|-----------|--|---|--|
| | | develop extension plan | |
| C2 | Community based agricultural extension for AA2CC | Guide community based agricultural through NAFES extension process with focus on AA2CC through ToT | 2 person months early 2011 |
| C3 | Farming systems and AA2CC | Analyze existing farming systems and potential for adaptation activities with NAFRI and NAFES, related to CC and initiate changes | 2 person-months mid 2011 |
| C3 | Efficient water management and water harvesting | Analyze existing water management and water harvesting practice with MAF and WREA, and initiate technical improvements in the light of CC effects | 2 person-months mid 2011 |
| C3 | Supply chains for agricultural inputs in support to agriculture adaptation | Analyze existing supply chains for agricultural inputs with MAF/NAFRI, others, and initiate commercial routing of adequate inputs to Lao PDR | 1 person-month early 2011 |
| C3 | Effective management of farmer organizations | Analyze status of farmer organizations with PAFO/DAFO in target districts and initiate organizational improvements | 1 person-month late 2011 |
| C3 | Unallocated (available for specific technical matters) | Pending on unforeseen needs | 2 person-months as required |
| C4 | WWW/ALM products development | Assist NAFRI to produce creative and powerful learning tools | 1 person-months mid 2012 |
| M+E | Establishment of internal M+E system | Assist PM to improve management information ensuring quality delivery of services on the ground | 4 person-months: 2 in early 2011, 2 in late 2012 |

Annex 7: Framework Conditions Project Entities, Personnel, Contracts

| Organizational Entities | Framework Conditions |
|--------------------------------------|--|
| Board | Overall strategic direction. Approval of work plans and budgets. Inter-ministerial coordination. Facilitating solutions on controversial matters. Enhancing support to National Climate Change strategy, MAF strategy, NAPA process, strategic UNDP / GEF objectives. Two meetings per year. |
| PTF | Tactical coordination plenary. Fostering collaboration among all stakeholders, both implementing and advising. Cross-sectoral orientation. Vertical mix of agencies and partners, including beneficiaries. Guiding annual work plans. Bi-monthly meetings. |
| PSU | Main operational support entity. Full responsibility on all operational matters. Composed of all senior staff. Managing implementation of components towards the project objectives, outcomes and outputs. Contractor coordination across the whole project. Bi-weekly meetings. |
| LIP | Operational entity on province, district and kumban level. Main actor PAFO, and office of the Governor. Coordination of day-to day activities. Information of stakeholders on local level. Motivation and capacity building through mass organizations. Presence in DAFO offices and Technical Service Centers. Monthly meetings. |
| M+E | Monitoring of project activities, outputs, outcomes in line with Results Framework, indicators and annual work plan. Monitoring and assessing deliveries, quantity and quality, of contractors. Participatory engagement of beneficiaries. Regular reporting. Regular M+E meetings. |
| Component | Responsible to ensure that activities under the outcomes are implemented. Implementation of component activities according to component work plan and Results Framework. Coordination with other components. Contractor coordination on component level. Addressing cross-cutting issues. Integration of activities. Day-to-day meetings and communication. |
| Personnel | |
| PM | Full responsibility for project operations. Acting on behalf of Implementing Partner. Informing Board, PSU and PTF regularly and seeking cross-sectoral and cross-ministerial advice. Executing technical programmes through the PSU. Preparation of work plans, budgets, reports. Preparing operational environment for M+E group. Contractor coordination and management. |
| Assistant PM | Full responsibility for project operations under guidance of PM. Responsible for work programmes of components. Annual component workplans and budget. Integration with other components. Guiding activities in provinces. Coordination with other project on day-to-day basis. Following up monitoring results and findings related to the component. |
| M+E | Regular monitoring of all relevant project features in line with the projects monitoring and evaluation framework, and detailed annual monitoring plans for provinces, districts and components. Participatory monitoring tools on community level. Quality reports, quantitative and qualitative data, photos, charts, maps, presentations. |
| Scenario Analyst | Compilation of all existing scenarios associated to Lao PDR. Analyses of existing scenarios, together with other organizations in the country. Development and presentation of specific scenarios for Lao PDR and the agricultural sector. Communication with other national and international CC organizations |
| Policy Development Specialist | Identification of existing laws, strategies, decrees, administrative orders, guideline etc. that could have a bearing on CC issues, especially related to agriculture. Reviews of the texts, suggesting modifications and improvements through the GoL system, with special consideration of the Climate Change office, and based upon the national Strategy for Climate Change. |

| | |
|---|--|
| Agro-Economist | Detailed economic analysis of household budgets, farm budgets, farming systems, use of natural resources. Identification of CC adaptation measures which are economically beneficial for the farmers and villagers (micro-level). Identification of suitable crops and species, and other adaptation measures. Eventually proposals for subsidies, if economic benefits through CC adaptation are generated on macro-level only. |
| Agro-Ecologist | Detailed ecological analyses of previous or existing farming systems. Suggestions for farming system adaptations which are in line with the ecological conditions of the area. Identification of suitable crops and species, and other adaptation measures. |
| Media/Publication Officer | Based on results of internal project monitoring for all components, contractor reports, own investigation and research high quality material / media will be available for GoL, UNDP, project stakeholders, the interested public, a global audience (ALM). Close linkage of outcome for component 1 to outcome for component 4. |
| Sub-contracts | |
| <ul style="list-style-type: none"> • Establishment of database / climate risk info system AA2CC | Identification of existing database / information system related to CC in Lao PDR. Coordination and streamlining of data management and access. Establishment of database / information system (as part of the overall CC information structure in Lao PDR) with focus on agriculture/forestry at NAFRI. |
| <ul style="list-style-type: none"> • Training AA2CC | Training needs assessment of professional staff in different GoL agencies and in communities. Development of training curricula. Inclusion of practical adaptation measures in the training modules. Implementation of training. Evaluation. |
| <ul style="list-style-type: none"> • AA2CC Land use plans | Development of two district land use plans through NLMA approach for target districts with focus on potential consequences of CC: erosion areas (river banks, hills), flood areas, land-slide affected areas, conversion of forest to other land use, irrigation systems, water supply: rivers and wells, agricultural use, potential retention areas in case of natural disasters, etc. |
| <ul style="list-style-type: none"> • AA2CC Supply chain development | Identification of existing supply chains for agricultural products / inputs in Lao PDR. Improvements in terms of quality, quantity, prices and local distribution / sales. Inclusion of new inputs into the supply chain. Recommendations for policy development and regulatory framework on GoL/MAF level. |
| <ul style="list-style-type: none"> • AA2CC small infrastructure water management | Rehabilitation or construction of small water management infrastructure in target districts: flood control, river bank protection, small-scale irrigation, canals / weirs / regulators etc., village/school/pagoda ponds, wells, water-harvesting technology: roofs, jars, pits etc. Training in operation and maintenance. Formal establishment of user groups. |
| <ul style="list-style-type: none"> • AA2CC Extension modules | Methodology for CC Training, Extension and Adaptation Modules (CCTAM) developed with relevant organizations on provincial, district, kumban and village levels: CCTAM Crop/Agro-Forestry, CCTAM Small Livestock, CCTAM Fisheries/Aquaculture, CCTAM Fruit/Vegetables, others. The extension process will include distribution of basic inputs, seeds, tools etc. relevant for the module. |
| <ul style="list-style-type: none"> • AA2CC Farming inputs | Agriculture/forestry inputs outside the extension process on farm level: tools, seed production, animal feed and health, nurseries |
| <ul style="list-style-type: none"> • AA2CC Off-farm Livelihood | Methodology for CC Training, Extension and Adaptation Modules (CCTAM) developed with relevant organizations on provincial, district, kumban and village levels: Off-farm adaptation / income, "Safeguarding Land" education programme for schools, pagodas etc. |
| <ul style="list-style-type: none"> • AA2CC District office rehabilitation | Rehabilitation of two houses to be used as district training, coordination and project office. 4 office rooms plus large meeting/training room. Water and sanitary facilities. Electrical equipment, telephone, internet etc. |
| <ul style="list-style-type: none"> • AA2CC Regional conferences | Organization of annual or bi-annual conferences on AA2CC issues, organized by NAFRI in collaboration with other GMS partners. ADB has indicated support. |
| Others | |
| <ul style="list-style-type: none"> • AA2CC Monitoring Framework | See chapter 6: Monitoring Framework and Evaluation |

Standards for detailed Terms of Reference – PSU Core Posts

Project Manager

The Project Manager (PM) is a senior GoL staff who will perform the following key functions: The PM will report to the National Project Director, will receive guidance from the National Project Director and Project Board, and will be responsible for the day-to-day management, administration, coordination, and technical supervision of project implementation. The PM will lead the project team through the planning, implementation, and delivery of policies, reports, knowledge products, and other results approved in the project document and annual work plans. S/he will provide overall operational management for successful execution and implementation of the programme. S/he will be responsible for financial management and disbursements, with accountability to the government and UNDP. The PM will be appointed by the Implementing Agency and will monitor work progress, and ensure timely delivery of Outputs as indicated in the Strategic Results Framework on time and within budget. The PM will ensure provision of high-quality expertise and inputs to the project and also be responsible for day-to-day operations.

In carrying out her/his responsibilities, s/he will advocate and promote the work of adaptation to climate change in Lao PDR and will also closely work and network with the relevant government agencies, UNDP, the private sector, NGOs, and civil society organizations.

Responsibilities

- Facilitate the day-to-day functioning of the PSU;
- Coordinate the distribution of responsibilities amongst team members and organize the monitoring and tracking system of all cluster services;
- Manage human and financial resources, in consultation with the project's senior management, to achieve results in line with the outputs and activities outlined in the project document;
- Plan the activities of the project and monitor progress against the initial quality criteria;
- Mobilize goods and services to initiative activities, including drafting TORs and work specifications;
- Monitor events as determined in the Project Monitoring Schedule Plan, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditures);
- Monitor financial resources and accounting to ensure accuracy and reliability of financial reports;
- Responsible for preparing and submitting financial reports to UNDP on a quarterly basis;
- Manage and monitor the project risks initially identified, submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log;
- Be responsible for managing issues and requests for change by maintaining an Issues Log;
- Prepare the Project Progress Report (progress against planned activities, update on Risks and Issues, expenditures) and submit the report to the Project Board and Project Assurance;
- Prepare the Annual review Report, and submit the report to the Project Board;
- Prepare the AWP for the following year, as well as Quarterly Plans if required;
- Update the Atlas Project Management module if external access is made available;
- Work with co-funding partners to ensure that their activities/programs are integrated and complementary with those of the LDCF project.

- Link up project activities with related and parallel activities both within MAF and with external implementing partner agencies;
- Support the NPD in organizing Project Board meetings;
- Report and provide feedback to UNDP-GEF and the Project Board on project strategies, activities, progress, and barriers;
- Manage relationships with project stakeholders including donors, NGOs, government agencies, and others as required.

Qualifications/ Requirements

- Graduate with at least 5 years working experience in project management within the disciplines of environmental science, geography, or natural resource management
- Sound policy understanding of global development concerns, climate change discourse, and adaptation to climate change
- Extensive business and information exchange contacts with national and international agencies involved in local and international studies of climate change, in general, and adaptation, in particular
- Excellent inter-personal, communication and negotiating skills
- Previous work experience in the country on issues relevant to the project
- Ability and willingness to travel within and outside Lao PDR
- Demonstrable skills in office computer use - word processing, spread sheets etc.
- Proven track record of project management and project team experience working with government, NGOs, and other key stakeholders in Lao PDR
- Excellent verbal and written skills in English and Lao

Assistant Project Manager (APM)

In principle the same TOR and qualifications like the PM, but this is project funded and full-time position. The APM reports to PM.

Senior Technical Officer (STO M+E)

The Senior Technical Officer (STO) will be responsible for technical oversight of project activities with focus on monitoring and evaluation works. S/he will work with the national and international consultants and advisors to achieve the outputs of the project. S/he will build and manage relationships and partnerships at site level on the demonstration islands.

Responsibilities

- Technical supervision of project activities, monitoring and evaluation tasks, and quality control of project outputs;
- Organize and oversee consultant input, develop detailed Terms of References for national and international consultants and contractors in collaboration with PM and NPD
- Review all technical reports produced by national and international consultants
- Draft methodologies for technical activities of the project and prepare outline structure of technical reports

- Liaise with national and international consultants to design project activities
- Undertake technical oversight on a daily basis including monitoring technical aspects of project activities
- Identify, analyse and communicate lessons learned that may be useful in design and implementation of similar projects. The duty of identifying and analyzing lessons learned is an ongoing one, and the duty to communicate those lessons is on an as-needed basis, but not less frequently than once every six months.

Qualifications/ Requirements

- Graduate with at least 5 years working experience within the disciplines of environmental science, geography, or natural resource management
- Sound understanding of global development concerns, climate change discourse, and adaptation to climate change
- Extensive technical information exchange contacts with national and international agencies involved in local and international studies of climate change, in general, and adaptation, in particular
- Good understanding of M+E concepts, project cycle management
- Excellent inter-personal, communication and negotiating skills
- Previous work experience in the country on issues relevant to the project
- Ability and willingness to travel within and outside Lao PDR
- Demonstrable skills in computer use including and not limited to word processing, spread sheets
- Excellent verbal and written skills in English and Lao

Finance Assistant

The Finance Assistant will be responsible for the day-to-day management of all finances of the project. The Finance Assistant will report to the Project Manager and National Project Director and UNDP.

Responsibilities

- Standardize the finance and accounting systems of the project while maintaining compatibility with UNDP financial and accounting procedures
- Prepare budget revisions of the projects based on the Combined Delivery Reports (CDRs)
- Assist in the preparation of the Annual Work Plan (AWP)
- Comply and verify budget and accounting data by researching files, calculating costs, and estimating anticipated expenditures from readily available information sources.
- Prepare financial status reports, progress reports and other required financial reports
- Process all types of payment requests for settlement purpose including quarterly advances to the partners
- Prepare periodic accounting records by recording receipts and disbursements (ledgers, cash books, vouchers, etc.) and reconciling data for recurring or financial special reports and assist in preparation of annual procurement plan
- Undertake project financial closure formalities including submission of terminal reports, transfer and disposal of equipment, processing of semi-final and final revisions, and support professional staff in preparing the terminal assessment reports

- Prepare reports and documents as per specified formats, project, or programme plans and general reference documents as well as general administrative/financial or specialised tasks related to the project which may be of a confidential nature within the assigned area of responsibility
- Assist in the timely issuance of contracts and assurance of other eligible entitlements of the projects personnel, experts, and consultants by preparing annual recruitment plans
- Provide substantive support to the Project Manager for overall implementation
- Prepare and update inventories of expendable and non-expendable project equipment

Qualifications/ Requirements

- Undergraduate Degree in Commerce, Business Management, or other relevant discipline
- At least five years practical experience in related projects
- Strong understanding of budgeting and the UN/GoB accounting system—candidates familiar with UNDP administrative, program, and financial procedures preferred
- Ability to use MS Office packages under the Windows XP Professional environment
- Initiative, sound judgment, and capacity to work independently
- Proficient verbal and written English and Lao skills

Administrative Assistant

The Administrative Assistant will undertake administration of the day-to-day operations of the project office. The Administrative Assistant will report to the Project Manager.

Responsibilities

- Set up and maintain all files and records of the project in both electronic and hard copies
- Collect project related information data
- Update plans
- Administer Project Board meetings in coordination with the National Project Director
- Establish document control procedures
- Compile, copy and distribute all project reports
- Provide logistical support to the Project Manager, and national/international consultants in organising training events, workshops, and seminars
- Assist international, short-term consultants by organizing their travel schedules, arranging meetings with different stakeholders, and booking hotel accommodations
- Prepare monthly leave records for the project staff and long-term national/international consultants
- Provide support in the use of Atlas for monitoring and reporting
- Review technical reports in coordination with the Senior Technical Officer
- Assist the Senior Technical Officer to monitor technical activities carried out by responsible parties
- Draft necessary correspondence with local and international agencies and stakeholders

Qualifications

- At least 3 years of relevant administrative or program experience at the national or international level
- Undergraduate degree and/or certificate in secretarial or computer training

- Experience in using computers and office software packages, particularly word processing and spreadsheets (MS Word, Excel, etc.)
- Knowledge of database packages and web-based management systems
- Excellent inter-personal and communication skills
- Proficient verbal and written English and Lao skills

Annex 8: Co-Financing Letters



Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

1066
No /MAF
Date: 02 AUG 2010

Ministry of Agriculture and Forestry
Tel: 856-21 412340
Fax: 856-21 412344
E-mail: Laomafdic@yahoo.com
Vientiane Capital, Lao PDR

Ms. Sonam Yangchen Rana
UN Resident Coordinator and UNDP Resident Representative
Lao People's Democratic Republic

Subject: Co-financing support to NAPA follow-up project on "Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts"

Ref: Letter UNDP, No ENV/ACC, dated 24/08/2009
Ref: Letter MOPI, No 2562, dated 17/11/2009

Dear Ms. Sonam Yangchen Rana

The Government of Lao PDR here represented through the Ministry of Agriculture and Forestry (MAF) is pleased to confirm its co-financing support to the important project called "Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts". Through the MAF, the Government of Lao PDR will provide in-kind and parallel co-financing support of US\$ 5,143,289 (details in attached table).

The co-financing contribution will apply to the four years duration of the LCDF-funded project. It reflects ongoing baseline financing of the Government on adaptation strategies for rice-based cropping systems, rice-based upland farming systems, rice seed research and multiplication, and diagnosis of integrated farming systems constrained by droughts and floods, as well as in-kind GoL/NAFRI contributions. The projects are implemented through NAFRI.

These areas are highly relevant for the NAPA follow-up project and some of the findings and project results will directly feed into implementation activities by the NAPA follow-up "Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts". In this regard it is a particular advantage that all four projects are implemented through NAFRI, which will ensure a most beneficial cross-project utilization of co-financing support.

Thank you very much for your kind support and cooperation.

Sincerely,

Sitaheng RASPHONE
Minister
Ministry of Agriculture and Forestry

United Nations Development Programme



23 August 2010

Dear Mr. Glemarec,

Subject: Co-financing for GEF project: Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts

This is to confirm the support of the UNDP Lao PDR Country Office to the above mentioned GEF project implemented by the Ministry of Agriculture and Forestry which will focus on improving the resilience of farming systems to the increasing negative impacts of climate change. We therefore confirm that the UNDP CO will co-finance the above mentioned project through the "Institutional Strengthening and Capacity Development on Disaster Risk Management in Lao PDR" project implemented in collaboration with The National Disaster Management Office (USD 675,259) and the "Poverty and Environment Initiative" implemented in collaboration with the Ministry of Planning and Investment and the Water Resources and Environment Administration (USD 1,900,000).

We are very much looking forward to the commencement of the project.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Sonam Yangchen Rana'.

Sonam Yangchen Rana
Resident Representative

Mr. Yannick Glemarec,
UNDP-GEF Executive Coordinator
New York, USA

Address: Lane Xang Avenue, P.O. Box 345, Vientiane, Lao PDR
Tel: (856-21) 267 777 Fax: (856-21) 267 799, 264 939
www.undplao.org

Annex 9.1: Work Plan Year 1

| AA2CC NAPA Follow Up Lao PDR Framework Work Plan Year 1 | | | | | | | | | | | | | | |
|---|--|----------------|----------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| ID | Task Name | Resource Names | Cost Total | Cost Year1 | 2011 | | | | 2012 | | | | | |
| | | | | | Qtr 3 | Qtr 4 | Qtr 1 | Qtr 2 | Qtr 3 | Qtr 4 | Qtr 1 | Qtr 2 | Qtr 3 | |
| 1 | UNDP CPAP Lao PDR 2007-2011 | | \$0.00 | \$0.00 | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | |
| 3 | GEF NAPA (LDCF) National Adaptation Programmes Of Action | | \$0.00 | \$0.00 | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | |
| 5 | TITLE: Improving Resilience Agriculture Sector LaoPDR Climate Change | GEF | \$0.00 | \$0.00 | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | |
| 7 | OBJECTIVE: Food Insecurity climate change minimized vulnerability ext | GEF/UNDP | \$4,445,450.00 | \$1,480,000.00 | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | OUTCOME 1: Knowledge Base strengthened | PMU | \$573,486.00 | \$170,000.00 | | | | | | | | | | |
| 10 | Cost | | \$573,486.00 | \$0.00 | | | | | | | | | | |
| 11 | OUTPUT 1.1: Vulnerability information integrated in agriculture and | NAFRI | \$0.00 | \$0.00 | | | | | | | | | | |
| 12 | 1.1.1 Roundtable meetings with relevant agencies | | \$0.00 | \$0.00 | | | | | | | | | | |
| 13 | 1.1.2 Agreed information and reporting system: information flow, for | | \$0.00 | \$0.00 | | | | | | | | | | |
| 14 | 1.1.3 Regular dissemination of information across relevant agencies | | \$0.00 | \$0.00 | | | | | | | | | | |
| 15 | 1.1.4 Streamlining of digital information and maps, accessible throu | | \$0.00 | \$0.00 | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | |
| 17 | OUTPUT 1.2: CC and agriculture scenarios assessed | NAFRI | \$0.00 | \$0.00 | | | | | | | | | | |
| 18 | 1.2.1 CC scenarios from international and regional sources availabl | | \$0.00 | \$0.00 | | | | | | | | | | |
| 19 | 1.2.2 CC scenarios assessed regarding relevance for LaoPDR | | \$0.00 | \$0.00 | | | | | | | | | | |
| 20 | 1.2.3 Local and indigenous knowledge made available to inform sce | | \$0.00 | \$0.00 | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | |
| 22 | OUTPUT 1.3: Land use plans including CC risks | NLMA | \$0.00 | \$0.00 | | | | | | | | | | |
| 23 | 1.3.1 MoU with NLMA on local land use plans for target sites | | \$0.00 | \$0.00 | | | | | | | | | | |
| 24 | 1.3.2 Criteria and indicators for land use plans and CC adaptation | | \$0.00 | \$0.00 | | | | | | | | | | |
| 25 | 1.3.3 Development of local land use plans through NLMA / PLMA | | \$0.00 | \$0.00 | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | |
| 27 | OUTPUT 1.4: Long-term information system floods drought NAFRI | NDMO | \$0.00 | \$0.00 | | | | | | | | | | |
| 28 | 1.4.1 Agreement among relevant partners on structure and content | | \$0.00 | \$0.00 | | | | | | | | | | |

| | | | |
|--|----------|-----------------|--------------------|
| PMU AA2CC 18 NAFRI / GEF / UNDP Date: Fri 7/9/10 | Task | Milestone | External Tasks |
| | Split | Summary | External Milestone |
| | Progress | Project Summary | Deadline |

NAPA Lao PDR Page 1 manfredstaab@hotmail.com

AA2CC NAPA Follow Up Lao PDR
Framework Work Plan Year 1

| ID | Task Name | Resource Names | Cost Total | Cost Year1 | 2011 | | | | 2012 | | | | | | |
|----|--|------------------|---------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
| | | | | | Qtr 3 | Qtr 4 | Qtr 1 | Qtr 2 | Qtr 3 | Qtr 4 | Qtr 1 | Qtr 2 | Qtr 3 | | |
| 29 | 1.4.2 Establishment of database / system at NAFRI | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 30 | 1.4.3 Maintenance and update of database through NAFRI | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | |
| 32 | OUTCOME 2: CC adaptation capacities planners and producers strength | PMU | \$771,486.00 | \$250,000.00 | | | | | | | | | | | |
| 33 | Cost | | \$771,486.00 | \$0.00 | | | | | | | | | | | |
| 34 | OUTPUT 2.1: Stakeholders understand CC risks through applied tra | NAFRI | \$0.00 | \$0.00 | | | | | | | | | | | |
| 35 | 2.1.1 TNA in relevant GoL agencies, and on provincial, district, kum | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 36 | 2.1.2 Training curricula provided | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 37 | 2.1.3 Training implemented | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 38 | 2.1.4 Training assessed | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | |
| 40 | OUTPUT 2.2: CC land use planning in strategies, policies, plans | NLMA | \$0.00 | \$0.00 | | | | | | | | | | | |
| 41 | 2.2.1 Relevant strategies, policies, plans identified and reviewed | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 42 | 2.2.2 Dialogue with relevant agencies on CC modifications and ame | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 43 | 2.2.3 Relevant strategies, policies, plans updated | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | |
| 45 | OUTPUT 2.3: Agri officers trained in community based adaptation o | Contracts | \$0.00 | \$0.00 | | | | | | | | | | | |
| 46 | 2.3.1 Methodology for CC Training and Adaptation Modules (CCTA) | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 47 | 2.3.2 CCTAM Crop/Agro-Forestry | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 48 | 2.3.3 CCTAM Small Livestock | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 49 | 2.3.4 CCTAM Fisheries/Aquaculture | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 50 | 2.3.5 CCTAM Fruit/Vegetables | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 51 | 2.3.6 CCTAM Off-farm adaptation / Income | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 52 | 2.3.7 CCTAM "Safeguarding Land" programme for schools, pagoda | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | |
| 54 | OUTPUT 2.4: DDMC climate risk reduction practice | NDMO | \$0.00 | \$0.00 | | | | | | | | | | | |
| 55 | 2.4.1 TNA DDMCs | | \$0.00 | \$0.00 | | | | | | | | | | | |
| 56 | 2.4.2 Training curricula provided | | \$0.00 | \$0.00 | | | | | | | | | | | |

PMU AA2CC 2.8
NAFRI / GEF / UNDP
Date: Fri 7/9/10

| | | | | | |
|----------|--|-----------------|--|--------------------|--|
| Task | | Milestone | | External Tasks | |
| Split | | Summary | | External Milestone | |
| Progress | | Project Summary | | Deadline | |

AA2CC NAPA Follow Up Lao PDR
Framework Work Plan Year 1

| ID | Task Name | Resource Names | Cost Total | Cost Year1 | 2011 | | | | 2012 | | | | |
|-----|---|----------------|---------------------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | | | Qtr 3 | Qtr 4 | Qtr 1 | Qtr 2 | Qtr 3 | Qtr 4 | Qtr 1 | Qtr 2 | Qtr 3 |
| 113 | | | | | | | | | | | | | |
| 114 | OUTCOME 5: Project efficiently and effectively managed through the P | PMU | \$238,440.00 | \$80,000.00 | | | | | | | | | |
| 115 | Cost PMU | | \$238,440.00 | \$0.00 | | | | | | | | | |
| 116 | 5.1 Office allocation NAFRI Vientiane and 2 PAFOs | PM | \$0.00 | \$0.00 | | | | | | | | | |
| 117 | 5.2 Recruitment selected international/national staff | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |
| 118 | 5.3 Financial management and procedures | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |
| 119 | 5.4 TORs for staff | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |
| 120 | 5.5 Leasing vehicles | PM | \$0.00 | \$0.00 | | | | | | | | | |
| 121 | 5.6 TORs international TA | TL | \$0.00 | \$0.00 | | | | | | | | | |
| 122 | 5.7 Recruitment international short-term TA | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |
| 123 | 5.8 Recruitment staff | PM | \$0.00 | \$0.00 | | | | | | | | | |
| 124 | 5.9 TORs for contracts | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |
| 125 | 5.10 Draft Project Administrative Manual | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |
| 126 | 5.11 Inception report | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |
| 127 | 5.12 1st Board meeting | UNDP | \$0.00 | \$0.00 | | | | | | | | | |
| 128 | 5.13 Inception workshop | UNDP | \$0.00 | \$0.00 | | | | | | | | | |
| 129 | 5.14 Training hall / office rehabilitation 2 districts | PM | \$0.00 | \$0.00 | | | | | | | | | |
| 130 | 5.15 M+E Manual | PM/TL | \$0.00 | \$0.00 | | | | | | | | | |

PMU AA2CC 5.8
NAFRI / GEF / UNDP
Date: Fri 7/9/10

| | | | | | |
|----------|--|-----------------|--|--------------------|--|
| Task | | Milestone | | External Tasks | |
| Split | | Summary | | External Milestone | |
| Progress | | Project Summary | | Deadline | |

AA2CC NAPA Follow Up Lao PDR
Framework Work Plan Year 1

- 40 OUTPUT 2.2: CC land use planning in strategies, policies, plans**
2.2. Climate resilient land-use planning integrated into Lao PDR's poverty reduction and agricultural policies & action plans
- 45 OUTPUT 2.3: Agri officers trained in community based adaptation options**
2.3. Agricultural officers, extension workers, farmer cooperatives and TSC (Technical Service Center) members in target districts trained in climate change impacts on agricultural production and socio-economic conditions, and potential community-based adaptation options (e.g. agro-forestry, conservation agriculture, replacement of slash and burn practice, etc)
- 54 OUTPUT 2.4: DDMC climate risk reduction practice**
2.4. District Disaster Management Committees in target districts trained in climate risk assessment and potential community-based risk reduction strategies, including periodical ground practice with communities
- 61 OUTCOME 3: Community-based agricultural practice and off-farm opportunities**
OUTCOME 3 Community-based adaptive agricultural practices and off-farm opportunities demonstrated and promoted within suitable agro-ecological systems
- Indicators: 3.1. Cover: Number and type of risk-reducing community-based practices /measures implemented to support adaptation of livelihoods and/or resource management. 3.2. Cover: Number of farming households aware of new or strengthened adaptive agricultural practice (climate resilient cropping, livestock, fisheries and forestry practices, water management etc.) 3.3. Impact: Narrative description of the role of project interventions in reducing vulnerability (or improving capacity to adapt to climate change-related threat(s), assessed via questionnaire-based surveys (QBS) 3.4. Impact: Improvement in the relevant quantitative development outcome (e.g. yield, water management, livelihood diversification, off-farm employment, etc.) 3.5. Sustainability: Interventions are well received, appropriate and likely to continue to be used
- 63 OUTPUT 3.1: Existing elements of agri-resilience strengthened**
3.1. Resilient elements in existing farming systems identified and thoroughly strengthened
- 68 OUTPUT 3.2: Supply chains identified, assessed, improved**
3.2. Supply chains for different climate-resilient crops, livestock, etc., and farming inputs analyzed and economic impacts/market barriers assessed
- 74 OUTPUT 3.3: Climate resilient ALF practice introduced in flood / drought area**
3.3. Climate resilient cropping, livestock, fisheries and forestry practices introduced in at least 1 flood-prone and at least 1 drought-prone area
- 83 OUTPUT 3.4: Diversified ALF production and off-farm activities demonstrated**
3.4. Diversified agriculture, livestock, fish, vegetables, NTF production, and alternative feasible off-farm activities demonstrated in target districts where farming communities are dependent on rain-fed crops
- 91 OUTPUT 3.5: Water management, small-scale protection measures**
3.5. Rainfall capture, storage and adaptive irrigation and/or drainage management, and small-scale flood protection measures introduced in target drought-prone districts where rainfall is becoming more variable.
- 100 OUTCOME 4: Adaptation Monitoring and Learning long-term process**
OUTCOME 4: Adaptation Monitoring and Learning as a long-term process
- Indicators: 4.1. Replicability: Number of 'lessons learned' codified. 4.2. Replicability: Number and type of relevant networks or communities through which lessons learned are disseminated.
- 102 OUTPUT 4.1: Monitoring, lessons learned, dissemination ALM**
4.1. Project lessons captured in systematic monitoring, and periodically disseminated through, the Adaptation Learning Mechanism (ALM)
- 107 OUTPUT 4.2: Project knowledge shared: workshops and conferences**
4.2. Project knowledge shared with other countries in the Greater Mekong Sub-region facing climate-induced drought and flooding hazards to agricultural production through conferences and workshops at NAFRI
- 111 OUTPUT 4.3: Project knowledge: prevention and training**
4.3. Project knowledge incorporated into national flood and drought prevention and agricultural training programmes in Lao PDR
- 116 5.1 Office allocation NAFRI Vientiane and 2 PAFOs**
4 office rooms and parking at NAFRI, access to meeting and conference room, water and sanitation facilities
- 117 5.2 Recruitment selected international/national staff**
PM, PMU staff, Teamleader
- 118 5.3 Financial management and procedures**
Basic functions and clarification with UNDP procedures

AA2CC NAPA Follow Up Lao PDR
Framework Work Plan Year 1

1 UNDP CPAP Lao PDR 2007-2011

- Outcome 2: Enhanced ownership and capacity for pro-poor planning, implementation and harmonized aid coordination, and disaster management

- Output 2.4: Increased capacity within the Government to prepare and respond to natural as well as man-made disasters at all levels

- Indicators: Capacities on sustainable land management, drought and flood preparedness enhanced through participatory adaptation and monitoring activities in selected provinces. Increased capacity of the government for disaster management and coordination system. Strengthened legal and institutional framework for disaster preparedness and response. Awareness raised for the importance of disaster reduction, preparedness and response among the Lao population. Greater number and frequency of village/community meetings, involving the public, including women, youth and ethnic groups (disaggregated data)

3 GEF NAPA (LDCF) National Adaptation Programmes Of Action

The Least Developed Countries Fund (LDCF) was established under the United Nations Framework Convention on Climate Change (UNFCCC) at its seventh session in Marrakech and is managed by the GEF. The fund addresses the special needs of the 48 Least Developed Countries (LDCs), which are especially vulnerable to the adverse impacts of climate change. This includes preparing and implementing National Adaptation Programmes of Action (NAPAs) to identify urgent and immediate needs of LDCs to adapt to climate change. Indicators: Despite a small economy and limited institutional and technical capacity, advancements are visible and measurable, with respect to cutting edge actions to reduce vulnerability and increase adaptive capacity to the adverse impacts of climate change.

5 TITLE: Improving Resilience Agriculture Sector LaoPDR Climate Change

PROJECT TITLE: Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts

7 OBJECTIVE: Food insecurity climate change minimized vulnerability extreme flooding drought reduced

Project Objective: Food insecurity resulting from climate change in Lao PDR minimized and vulnerability of farmers to extreme flooding and drought events reduced as part of an applied ecosystem approach.

9 OUTCOME 1: Knowledge Base strengthened

OUTCOME 1 Knowledge base on Climate Change impacts in Lao PDR on agricultural production, food security and vulnerability, and local coping mechanisms strengthened. Indicators 1.1. Cover: Number of stakeholders served by expanded climate information and knowledge base related to agriculture and food security 1.2. Impact: Percent change in use of information and knowledge base for agricultural sector planning 1.3 Sustainability: Availability of skills and resources necessary to continue maintaining the knowledge base after conclusion of project (at relevant scale)

11 OUTPUT 1.1: Vulnerability Information Integrated In agriculture and climate risk system

1.1. Existing climate hazard and vulnerability information for Lao PDR compiled and integrated into a agriculture and climate risk information system, coordinated by NAFRI (established under Output 1.4.) leading to a long-term warning system.

17 OUTPUT 1.2: CC and agriculture scenarios assessed

1.2. Scenarios for agricultural production in Lao PDR assessed on the basis of local expertise, regional and global Climate Change models

22 OUTPUT 1.3: Land use plans Including CC risks

1.3. Agricultural land-use planning in flood- and drought-prone areas analyzed and alternative land use plans developed, based on climate-risk scenarios and long-term warning indicators

27 OUTPUT 1.4: Long-term information system floods drought NAFRI

1.4. Climate risk projections integrated into a comprehensive national long-term information system for flooding and drought-related hazards and vulnerabilities, and the effects on agriculture, managed and updated by NAFRI

32 OUTCOME 2: CC adaptation capacities planners and producers strengthened

OUTCOME 2 Capacities of sectoral planners and agricultural producers strengthened to understand and address climate change – related risks and opportunities for local food production and socio-economic conditions

Indicators: 2.1. Cover: Number and type of sectoral planners (agriculture, water management, food security, early warning, poverty alleviation, etc) engaged in capacity development activities for vulnerability reduction or improved adaptive capacity. 2.2. Cover: Number of agricultural officers, extension workers, farmer cooperatives and TSC (Technical Service Center) members in target districts trained in climate change impacts on agricultural production and socio-economic conditions. 2.3. Impact: Improvement in the quantitative outcome through resilient planning and investment decisions (e.g. diversification of farming system, agro-forestry, conservation agriculture, replacement of slash and burn practice, etc). 2.4. Sustainability: Number and group of project beneficiaries involved in capacity development for implementation of specific adaptation measures or decision-support tools.

34 OUTPUT 2.1: Stakeholders understand CC risks through applied training

2.1. Relevant stakeholders in MAF, WREA, MPI, LMA, target PAFOs, and other relevant GoL agencies trained to understand Climate Change risks for agricultural production and review policy options for enhanced food security (applied training)

AA2CC NAPA Follow Up Lao PDR
Framework Work Plan Year 1

- 119 **5.4 TORs for staff**
19 local staff, strategic functions for management
- 120 **5.5 Leasing vehicles**
3 pickups, 1 station wagon
- 121 **5.6 TORs International TA**
13 short-term missions
- 122 **5.7 Recruitment International short-term TA**
2/2011 Land Use Planning for CC
2/2011 Training Needs Analysis for Agriculture Adaptation to Climate Change (AA2CC)
3/2011 Community based agricultural extension for AA2CC
3/2011 Farming systems and AA2CC
4/2011 Early warning systems for agriculture and CC hazards
4/2011 Efficient water management and water harvesting
5/2011 Institutional development for mainstreaming CC within MAF/GoL
5/2011 Training in curricula development for AA2CC
6/2011 CC scenario analysis for Lao PDR
6/2011 Effective management of farmer organizations
7/2011 Supply chains for agricultural inputs in support to agriculture adaptation
9/2011 WWW/ALM products development
Unallocated (available for specific technical matters)
- 123 **5.8 Recruitment staff**
GoL staff can apply but has to be on leave from services. Full UNDP recruitment process with selection criteria and interviews.
- 124 **5.9 TORs for contracts**
Memoranda of understanding and contract details with Implementing Partners, GoL, NGOs, private sector
- 125 **5.10 Draft Project Administrative Manual**
Manual with operational procedures, detailing functional relationships between partners;
forms and formats
- 126 **5.11 Inception report**
Overall work plan for 4 years, and main organizational features of the project
- 127 **5.12 1st Board meeting**
Formal decision-making on main features of inception phase and future implementation phase
- 128 **5.13 Inception workshop**
Administrative manual, M+Manual, functions of groups and individuals, budget, general framework for operations over 4 years, extensive stakeholder participation
- 129 **5.14 Training hall / office rehabilitation 2 districts**
Meeting and training hall in two target districts North / South
- 130 **5.15 M+E Manual**
Detailed M+E plan for 4 years, procedures, forms, formats, data flow, processing, storage, visibility, analysis, links to components etc.

Annex 9.2: Framework Indicative Activities

| Objectives Hierarchy | Outputs | Indicative Activities | Targets End of Project |
|---|--|--|--|
| Project Objective Food insecurity resulting from climate change in Lao PDR minimized and vulnerability of farmers to extreme flooding and drought events reduced as part of an applied ecosystem approach. | | | |
| Outcome 1 Knowledge base on Climate Change impacts in Lao PDR on agricultural production and food security strengthened | 1.1 Existing climate hazard and vulnerability information for Lao PDR compiled and integrated into a agriculture and climate risk information system, coordinated by NAFRI (established under Output 1.4.) leading to a long-term warning system. 1.2 Scenarios for agricultural production in Lao PDR assessed on the basis of local expertise , regional and global Climate Change models 1.3 Agricultural land-use planning in flood- and drought-prone areas analyzed and alternative land use plans developed, based on climate-risk scenarios and long-term warning indicators 1.4 Climate risk projections integrated into a comprehensive national long-term information system for flooding and drought-related hazards and vulnerabilities, and the effects on agriculture, managed and updated by NAFRI | 1.1.1 Roundtable meetings with relevant agencies 1.1.2 Agreed information and reporting system: information flow, forms, formats, time frame, responsibilities 1.1.3 Regular dissemination of information across relevant agencies and to provinces 1.1.4 Streamlining of digital information and maps, accessible through www 1.2.1 CC scenarios from international and regional sources available at NAFRI 1.2.2 CC scenarios assessed regarding relevance for LaoPDR 1.2.3 Local and indigenous knowledge made available to inform scenario assessments 1.3.1 MoU with NLMA on local land use plans for target sites 1.3.2 Criteria and indicators for land use plans and CC adaptation 1.3.3 Development of local land use plans through NLMA / PLMA 1.4.1 Agreement among relevant partners on structure and content of information system 1.4.2 Establishment of database / system at NAFRI 1.4.3 Maintenance and update of database through NAFRI | 16 meetings 1 info system 12 reports 1 website, 8 updates 1 database X reports 8 workshops in provinces 1 MoU 1 planning handbook 2 land use plans 1 MoU 1 database |

| Objectives Hierarchy | Outputs | Indicative Activities | Targets End of Project |
|---|---|---|---|
| <p>Outcome 2 Capacities of sectoral planners and agricultural producers strengthened to understand and address climate change – related risks and opportunities for local food production and socio-economic conditions (equivalent to activity in ATLAS)</p> | <p>2.1 Sectoral planners in MAF, WREA, MPI, LMA, target PAFOs, and other relevant GoL agencies trained to understand Climate Change risks for agricultural production and review policy options for enhanced food security (applied training)</p> <p>2.2 Climate resilient land-use planning integrated into Lao PDR’s poverty reduction and agricultural policies & action plans</p> <p>2.3 At least 75% of agricultural officers, extension workers and farmer cooperatives in target districts trained in climate change impacts on agricultural production and socio-economic conditions, and potential community-based adaptation options (e.g. agro-forestry, conservation agriculture, replacement of slash and burn practice, etc)</p> <p>2.4 At least 75% of District Disaster Management Committees in target districts trained in climate risk assessment and potential community-based risk reduction strategies, including periodical ground practice with communities</p> | <p>2.1.1 TNA in relevant GoL agencies, and on provincial, district, kumban and village levels</p> <p>2.1.2 Training curricula provided</p> <p>2.1.3 Training implemented</p> <p>2.1.4 Training assessed</p> <p>2.2.1 Relevant strategies, policies, plans identified and reviewed</p> <p>2.2.2 Dialogue with relevant agencies on CC modifications and amendments</p> <p>2.2.3 Relevant strategies, policies, plans updated</p> <p>2.3.1 Methodology for CC Training and Adaptation Modules (CCTAM) developed with relevant organizations on provincial, district, kumban and village levels</p> <p>2.3.2 CCTAM Crop/Agro-Forestry</p> <p>2.3.3 CCTAM Small Livestock</p> <p>2.3.4 CCTAM Fisheries/Aquaculture</p> <p>2.3.5 CCTAM Fruit/Vegetables</p> <p>2.3.6 CCTAM Off-farm adaptation / income</p> <p>2.3.7 CCTAM “Safeguarding Land” programme for schools, pagodas etc.</p> <p>2.4.1 TNA DDMCs</p> <p>2.4.2 Training curricula provided</p> <p>2.4.3 Training curricula implemented</p> <p>2.4.4 Annual ground practice with communities</p> <p>2.4.5 Training and ground practice assessed</p> | <p>1 TNA</p> <p>X curricula</p> <p>X training days</p> <p>1 report</p> <p>1 MoU</p> <p>1 report</p> <p>1 strategy</p> <p>6 training and extension modules</p> <p>1 TNA</p> <p>X training days</p> <p>8 ground practice events</p> |
| <p>Outcome 3 Community-based adaptive agricultural practices</p> | <p>3.1 Resilient elements in existing farming systems identified and thoroughly strengthened</p> | <p>3.1.1 Analyses of existing farming systems</p> <p>3.1.2 Identification of resilient elements</p> <p>3.1.3 Integration of resilient elements into CCTAMs</p> | <p>1 report</p> |

| Objectives Hierarchy | Outputs | Indicative Activities | Targets End of Project |
|--|--|---|---|
| demonstrated and promoted within suitable agro-ecological systems (equivalent to activity in ATLAS) | <p>3.2 Supply chains for different climate-resilient crops, livestock, etc., and farming inputs analyzed and economic impacts/market barriers assessed</p> | <p>3.2.1 Existing supply chain analyses with main agricultural traders in LaoPDR 3.2.2 Identification of suitable crops, inputs etc. available on regional / international supply chains 3.2.3 Economic analyses macro level 3.2.4 Economic impact farming household</p> | <p>4 meetings X reports</p> |
| | <p>3.3 Climate resilient cropping, livestock, fisheries and forestry practices introduced in at least 1 flood-prone and at least 1 drought-prone area</p> | <p>3.3.1 Implementation plan for CCTAMs on provincial, district, kumban and village levels 3.3.2 Introduction CCTAM Crop/Agro-Forestry 3.3.3 Introduction CCTAM Small Livestock 3.3.4 Introduction CCTAM Fisheries/Aquaculture 3.3.5 Introduction CCTAM Fruit/Vegetables 3.3.6 Introduction CCTAM Off-farm adaptation / alternative income 3.3.7 Introduction CCTAM “Safeguarding Lands” in schools</p> | <p>1 plan X pilot villages X introductions per village X pilot schools</p> |
| | <p>3.4 Diversified agriculture, livestock, fish, vegetables, NTF production demonstrated in at least 40% of target districts where farming communities are dependent on rain-fed crops</p> | <p>3.4.1 Extension process for CCTAMs 3.4.2 Farming systems and farm budgets 3.4.3 Demonstration plots 3.4.4 FFS, Field days and cross-visits by farmers in target districts 3.4.5 Systematic follow up on-site 3.4.6 Farming system monitoring / database</p> | <p>DAFO structure Reports X plots X field days X weekly visits 1 database</p> |
| | <p>3.5 Rainfall capture, storage and adaptive irrigation and/or drainage management, and small-scale flood protection measures introduced in at least 40% of target drought-prone districts where rainfall is becoming more variable.</p> | <p>3.5.1 Rainfall capture / rainwater harvesting facilities (jars, tanks, etc) 3.5.2 Water storage facilities (ponds, reservoirs) 3.5.3 Small scale irrigation or drainage 3.5.4 Bank protection and erosion control 3.5.5 Tree nurseries 3.5.6 Wells 3.5.7 Equipment, tools etc.</p> | <p>X jars X ponds X m of irrigation X m of protection X wells X sets</p> |

| Objectives Hierarchy | Outputs | Indicative Activities | Targets End of Project |
|--|---|---|---|
| Outcome 4 Adaptation Learning as a long-term process (equivalent to activity in ATLAS) | <p>4.1 Project lessons captured in, and periodically disseminated through, the Adaptation Learning Mechanism (ALM)</p> <p>4.2 Project knowledge shared annually with other countries in the Greater Mekong Subregion facing climate-induced drought and flooding hazards to agricultural production through a conference at NAFRI</p> <p>4.3 Project knowledge incorporated into national flood and drought prevention and agricultural training programmes in Lao PDR</p> | <p>4.1.1 Project Monitoring System established</p> <p>4.1.2 Project website established</p> <p>4.1.3 Quarterly contribution into ALM</p> <p>4.2.1 Annual CC Agriculture conference at NAFRI</p> <p>4.2.2 Production of publication materials</p> <p>4.3.1 Annual workshop on CC Agriculture mainstreaming with relevant institutions and organizations at NAFRI</p> | <p>1 M+E system</p> <p>1 website</p> <p>4 conferences</p> <p>6 brochures</p> <p>4 workshops</p> |

Annex 10: Information on Pre-selected Project Sites



PPG Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts (2011-2015)

Field Trip Report

Field trip to pre-selected provinces

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Vientiane, July 2010

I. Background

The Lao PDR sits on the boundaries of the Himalayan, Indo- Malayan, and Chinese regions. Lao PDR is a land of forests, mountains and rivers, and has - compared with its neighbouring countries - still a low population density and relatively undisturbed natural area. Most people in Laos are semi-subsistence rural-based farmers and fishers. Lao PDR is divided into three agriculture regions – northern, central and southern. These regions differ in climate, topography and soil.

The highest mountains (up to 2,816 m amsl) are in the northern uplands, and the Annamites extend south from there along the Vietnamese border. The only extensive flat areas lie along the east bank of the Mekong River at around 100-200 m amsl, to the west of the Annamites.

The country is administratively divided into 17 provinces and the capital, and subdivided into 142 districts with 10,873 villages, 865,535 households, covering a population of 6,200,000.

The country covers 236,800 square kilometers, and 83% of the population lives in rural areas. The population consists of 47 ethnic groups and three main cultural groups which's namely Lao Loum, Lao Theung¹ and Lao Soung². About 17 percent of the population lives in the urban areas.

The field trips were conducted in the 5 provinces which include 8 districts in Laos: Pheing, Paklai, Botane districts (Xayabouly province), Xieng Ngune district (Laungprabang province), Champhone, Outhumphone districts (Savannakhet province), Khongsedon district (Salavan province), Lamam district (Xekong province). The names of all the initially 20 pre-selected districts see attachment.

The first field trip was carried out to three provinces in the south of Laos: Lamam district (Xekong Province), Khongsedon district (Saravanh Province), and Champhone and Outhumphone district (Savannakhet Province) by Ms Phoutsakhone Ounchith (National Agriculture Consultant) and Ms Lakhamvone Boualavanh (Technical Officer from NAFRI) from 2nd to 10th June 2010.

The second field trip was carried out to two provinces in the north: Luangprabang Province (Xieng Ngune district), and Xayabouly province (Phieng, Paklai, and Botane districts) by Ms Phoutsakhone Ounchith (National Agriculture Consultant) and Ms. Hongthong Phetvixai (Technical Officer from NAFRI) from 5th to 9th July 2010.

This report is to highlight the field trips results which include: the dominant farming systems in the visited area; characterization of the impact of disasters on agriculture and specific information on the proposed project sites.

II. Summary

1. Objective:

- To inspect four pre-selected sites and collect additional information for final selection of the project locations

2. Expected outcomes:

- Assessment of the real situation in the target project sites (accessibility, infrastructure, communication, etc.)
- Additional information on sites obtained and verified
- Site visit report with recommendations for project sites selection consideration

3. Visited places:

The field trip was carried out to provinces in the south and north of Laos

- Lamam district (Xekong Province)
- Khongsedon district (Salavan Province)
- Champhone and Outhumphone districts (Savannakhet Province)
- Louang Prabang and Xieng Ngune districts (Luang Prabang Province);
- Botane, Phiang and Paklai districts (Xayabouly Province)

4. Methodology

- Field trip – Collecting information by interviewing the key persons and villagers
- Analysis of relevant secondary data and information and demographic data of pre-selected district/provinces

III. Results of the field trips

1. The dominant farming systems

1.1 Farming system – Agriculture:

Cropping systems:

- The main agriculture cropping in the north (Luangprabang and Xayabouly provinces) are Corn (*Zea mays*), Broom grass (*Thysanolaema maxima*), Paper mulberry (*Broussonetia papyrifera*), Houa douk deau (*Amorphophallus paeoniifolious*), rice etc. About 77.7% of the farmers in Luangprabang province cultivate upland rice.

According to the meetings and discussions with key persons, the reason why farmers grow these types of crops are due to the geography of the district/province (mountainous areas), market demand and climatic conditions.



Corn and Broom grass farms in the mountainous areas (Xayabouly and Lungprabang; Jul 2010)

- In the south: Lamam district (Xekong province), Khongsedon district (Salavan Province) and Champhone and Outhumphone districts (Savannakhet Province). The main agriculture crops of the four districts are rice, bean, coffee, cassava, sugarcane.

Main agriculture crops and livestock in the visited areas

| Pre-selected districts were visited | Main agricultural crops | Main agricultural livestock |
|-------------------------------------|--|-----------------------------|
| Xayabouly province | | |
| Phieng | Rice | Cows, buffalos, pigs, goats |
| Paklia | Corn, Rice, bean, Paper mulberry, Houa dou deua... | Cows, buffalos, pigs, goats |
| Botane | Corn, Rice, bean... | Cows, buffalos, pigs, goats |
| Luangprabang Province | | |
| Xieng Ngune | Rice, Corn, mulberry, Houa dou deua, Sesame, cassava... | Cows, buffalos, pigs, goats |
| Savannakhet Province | | |
| Champhone | Rice, vegetable (cabbage...) | Cows, buffalos, goats |
| Outhumphone | Rice, vegetable (cabbage...) | Cows, buffalos, goats |
| Salavan Province | | |
| Khongsedon | Rice, bean, soybean, tobacco | Cows, buffalos, goats |
| Xekong Province | | |
| Lamam | Rice, coffee, cabbages, chinese cabbages, peanuts, corns | Cows, buffalos, goats |

Number and Size of holdings

The agriculture holdings in Xayabouly province cover 204,858 ha which includes: Phieng district (32,720 ha), Paklai district (33,089 ha), and Botane district (7,262 ha). 90% of the households are agriculture holdings.

The holdings in Xieng Ngune district (Luangprabang province) cover 8,546 ha. There are 5,684 households, of these 4,200 households (74%) are agriculture holdings.

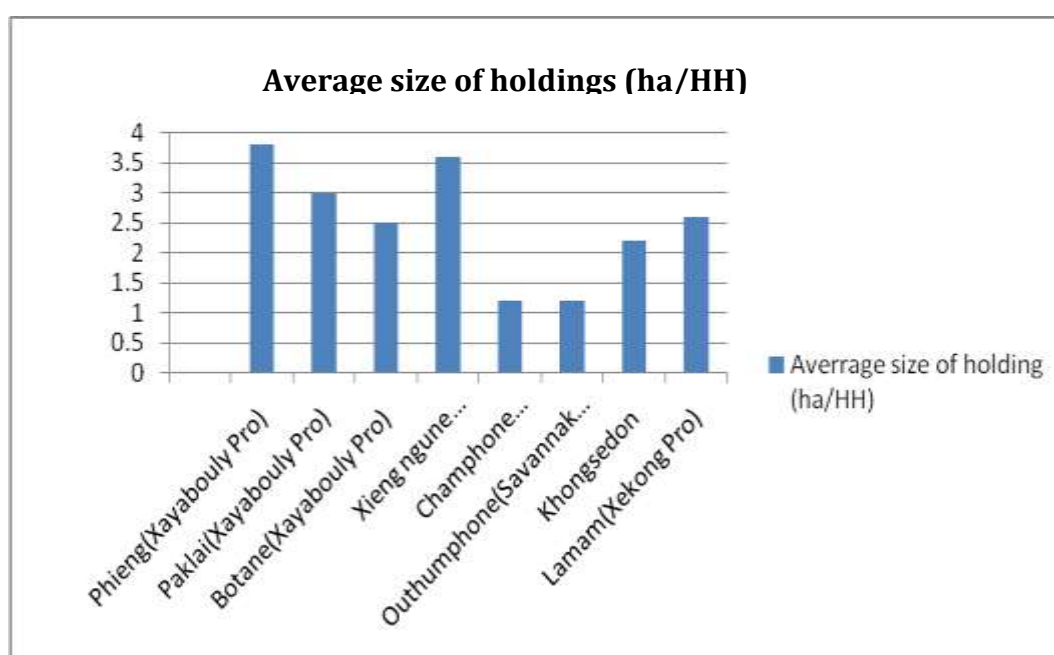
The holdings in Savannakhet province cover 243,459 ha, with an area of 19,669 ha in Champhone district and 13,805 ha in Outhumphone district.

Salavan province covers 189,880 ha of agriculture holdings which include an area of 21,111 ha in Khongsedon district; 98% of the households are agriculture holdings.

The agriculture holdings in Xekong province cover 58,372 ha which includes 10,243 ha in Lamam district. There are 3,904 households (89%) engaged in agriculture.

Number and size of holdings

| Pre-selected districts were visited | No of households | No of agriculture holdings | | Area of Agriculture (ha) | Average size of holdings (ha/HH) |
|-------------------------------------|------------------|----------------------------|-----|--------------------------|----------------------------------|
| | | Holdings (HH) | (%) | | |
| Xayabouly Province | | | | | |
| Phieng | 9,848 | 8,575 | 87 | 32,720 | 3.8 |
| Paklai | 12,850 | 11,565 | 90 | 33,089 | 3 |
| Botane | 3,200 | 2,880 | 90 | 7,262 | 2.5 |
| Luangprabang Province | | | | | |
| Xieng ngune | 5,684 | 4,200 | 74 | 8,546 | 2 |
| Savannakhet Province | | | | | |
| Champhone | 18,067 | 16,031 | 89 | 19,669 | 1.2 |
| Outhumphone | 12,500 | 11,250 | 90 | 13,805 | 1.2 |
| Salavan Province | | | | | |
| Khongsedon | 9,724 | 9,530 | 98 | 21,111 | 2.2 |
| Xekong Province | | | | | |
| Lamam | 4,374 | 3,904 | 89 | 10,243 | 2.6 |



Average size of holdings

Access to Irrigation:

- In Xayabouly province, the irrigated areas are 76.67% (157,065ha) of the total provincial agriculture area (204,855 ha); which include the irrigated areas in Phieng district 90% (29,948 ha), Paklai district 70% (23,162 ha), and Botane 10% (299 ha) of the farms linked to irrigation systems.
- The farms linked to irrigation systems in Xieng Ngune district (Luangprabang province) are about 1.5% (215 ha).
- In Savannakhet province, the farms linked to irrigation systems are 3% (7,303 ha): Champhone district 34.86% (12,200 ha), Outhumphone district 1% (269 ha).
- The farms linked to irrigation systems in Khogsedon district (Salavan province) are about 32% (6,755 ha).
- The irrigated areas in Lamam district (Xekong province) are 50,56% (5,178 ha).

1.2 Farming system based on Livestock:

According to the meetings and discussions with key resource persons and the secondary data, animal raising is one of the significant activities. The main livestock in all the 8 districts are cattle, pigs, goats, chicken and ducks. Diseases of animals are the major problem after natural disasters as floods.

The main practice in all the sites visited relates to agriculture and livestock which cover 70% of households. The farmers are also working in offices, as sellers, or workers etc.

Farmers do not have an in-depth understanding of agricultural technologies and modern practices (e.g. they are using herbicides, but do not understand the consequences).

2. Characterization of the impact of disasters on agriculture**Xayabouly Province**

Xayabouly province was affected by droughts since 2008, with damages directly to the agriculture production. In 2008 and 2009, an invasion of rats came and destroyed the crops in the agriculture area which had never happened before (Phieng district).

This year the farmers in all 3 districts visited might not get a good yield due to late arrival of the raining season.

The water level in the streams and rivers are lower than in past years, 50 - 80 centimeters lower (Mr. Vieng Xaisomhaksa , DAFO in Phieng district. July 2010).



All 3 districts visited are directly linked to land degradation and erosion resulting from management of the agriculture systems, and also natural disasters (storms). Plants have been stressed since 4 years (low yield) – farmers used to get 6 T/ha, presently getting only 4 T/ha.

Decreasing agricultural productivity

(Phieng distrit, Xayabouly province July 2010)



System was dry because the raining season did not arrive as usual

(Botane district, Xayabouly Province July 2010)



Land degradation and erosion resulting from poor agriculture practice

Luangprabang Province

Xieng Ngune district (Luangprabang province) gets drought every year. It damages directly the agricultural production. Some diseases are linked to droughts.

In the past the main activity was rice production. Due to the poor of soil quality, the climate and market demand the farmers have changed to Broom grass (*Thysanolaema maxima*) and Paper mulberry (*Broussonetia papyrifera*) farming. *Thysanolaema maxima* covers 70% of the households in the district.

Savannakhet Province

Sites visited were conducted in a drought area (Outhumphone district) and flood area (Champhone district).

Champhone district has experienced droughts, storms and floods - these disasters damaged houses, agriculture areas and animals, irrigation systems and roads. The big issue of this district is flooding.

Outhumphone district has droughts every year. The drought area is expanding. The soil quality is poor. There is continuously decreasing agricultural productivity.



Female farmer interviewed

Salavan Province

Salavan has problems with floods and the most affected districts are Khongsedon, Vapy and Salavan, the flooding happens around Sept to Oct. During the past 10 years Salavan experienced natural disasters like the Xangsan, Lexkyma, and Kesana typhoons. The agriculture areas were also destroyed and animal got diseases after these natural disasters. There is continuously shrinking access to water resources

Keang Houad, Hatdou, Houay Xao, and Nongkoulou villages (Khongsedon district) are flooded areas, but this year (2010) there is no water in the rice fields as usual. The main crops of this area are rice, corn, and tobacco. The irrigation systems are damaged by flood almost every year. These are nominated villages by PAFO for becoming part of the project areas.



Left: Khongsedon district, Salavan province, June 2010:

Villagers are growing crops along the river banks and depending on a sufficient level of water in the river.

Right: Khongsedon district, Salavan province, June 2010:

This is flooded area, but the raining season did not arrive as expected and rice fields are dry.

Xekong Province

Lamam district (Xekong Province) gets drought every year, and has a lower agriculture yield (used to get 4.5 T/ha but present get only 3.5 T/ha).

The Ketsana typhoon was the big natural disaster even which happened in Xekong province, and it was the first event in the history of province. Housing, livestock and agriculture areas were destroyed.

Nangyong and Navakeangluang villages were affected by the Ketsana typhoon. Two of these villages were relocated after the Ketsana typhoon



**Relocated village after irregular flooding in 2009.
Nang Yong Village, Lamam District, Xekong Province**

3. The proposed project sites.

According to the field trip findings Phieng and Paklai district (Xayabouly Province), Champhone and Outhumphone districts (Savannakhet Province), and Khongsedon district (Salavan Province) are proposed for implementation of the project.

The reasons of selection

❖ Phieng and Paklai districts (Xayabouly Province)

Natural indicators:

- Very low level of water in streams and canals
- Insufficient water resource that does not match the needs of the farmers
- Observed change in the pattern of the raining seasons

Agriculture indicators:

- Continuously decreasing agricultural productivity
- Crops are under stress since more than 4 years
- Continuing soil degradation

Human indicators:

- Changing patterns in agriculture cropping - used to plant rice, presently grow other cash crops (corn, grass broom, mulberry...)
- Lack of land use planning

Indicators for access and replication / information:

- Phieng district has a functional agricultural extension service
- Full year access through all-weather road
- No translation required
- Local farmers have demonstrated capacity for livelihood diversification



❖ **Champhone and Outhumphone districts (Savannakhet Province)**

Natural indicators:

- Increasing natural disaster events which affect village livelihoods and the agriculture yields.
- Expansion of drought areas (in Outhumphone and Champhone district)
- Expansion of flood areas (in Champhone district)

Agriculture indicators:

- Continuously decreasing agricultural productivity
- Continuously shrinking access to water resources
- Continuing soil degradation

Haman indicators:

- Migration patterns of villagers to urban areas

Indicators for access and replication / information:

- Local farmers with demonstrated capacity and willingness to livelihood diversification
- No translators for Laos language.
- Lack of land use management
- Full year access through all-weather road

❖ **Khongsedon district (Salavan Province)**

Natural indicators:

- Increasing natural disaster events
- Expanding of drought areas

Agriculture indicators:

- Continuously decreasing agricultural yield
- Continuously shrinking access to water resources
- Continuing soil degradation
- Animal got disease after these natural disasters

Haman indicators:

- Migration patterns of villagers to urban areas

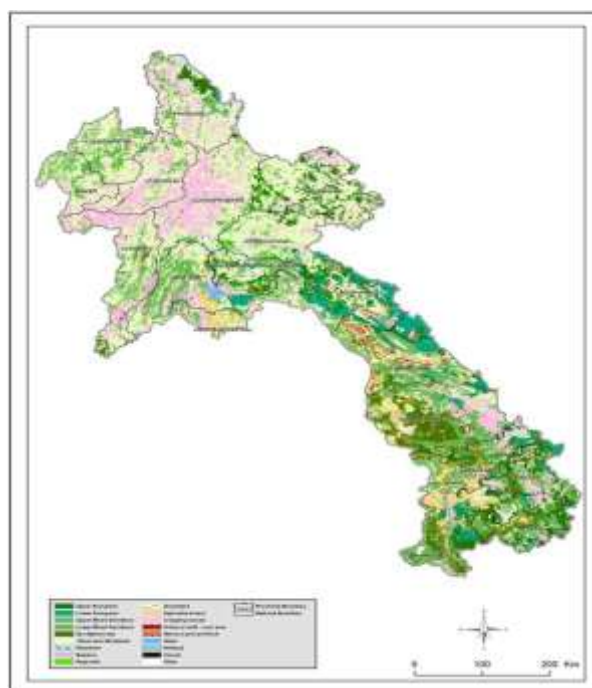
Indicators for information:

- Local farmers with demonstrated capacity and willingness to livelihood diversification
- No need of translators for Laos language.
- Lack of land use management
- Full year access through all-weather road



Proposed project site in Savannakhet and Salavan Provinces

Habitat Forest and Agriculture Cover – Laos



Data collection on sites visited

| Name of districts | Year with flood | Year with drought | Population | | Households | Area | | | | Average size of agriculture per household (ha/HH) | Total number of small holder farms (HH) | Average of farms linked to irrigation systems (%) | |
|------------------------------|---|-------------------------|------------|--------|------------|-----------------|------------------|-----------------------|-------------------|---|---|---|--------|
| | | | Total | Female | | Total size (ha) | Forest area (ha) | Agriculture area (ha) | Erosion area (ha) | | | (%) | (ha) |
| Xayabouly Province | | | | | | | | | | | | | |
| Phieng | in 2002, 2004 and 2008 | in 2010 | 53,761 | 26,502 | 9,848 | 282,600 | 3,031 | 32,720 | Have no data | 3 | 8,575 | 90 | 29,448 |
| Paklai | in 2002, 2004 and 2008 | in 2008, 2010 | 63,884 | 31,320 | 12,850 | 241,600 | 113,552 | 33,089 | Have data | 3 | 11,565 | 70 | 23,162 |
| Botane | in 1983 | in 1978 | 17,499 | 8,775 | 3,200 | 109,700 | 72,093.00 | 7,262.37 | Have no data | 2.1 | 2,880 | 10 | 298.73 |
| Luangprabang Province | | | | | | | | | | | | | |
| Xieng Ngune | in 2008 | In 2010 | 32,116 | 16,273 | 5,684 | 162,640 | 70,194 | 8,546 | 2 | 2 | 4,200 | 1.5 | 215 |
| Savannakhet Province | | | | | | | | | | | | | |
| Champhone | every year | in 2000 | 160,361 | 54,620 | 16,031 | 102,900 | 32,608 | 19,669 | 0.03 | 1.2 | 16,031 | 34.86 | 12,200 |
| Outhumphone | None | every year | 87,464 | 43,188 | 12,500 | 105,000 | 31,500 | 25,000 | Have no data | 1.2 | 11,250 | 1 | 269 |
| Salavan Province | | | | | | | | | | | | | |
| Khongsedon | in 2000, 2005, 2006, 2007, 2008, and 2009 | in 2006, 2007, and 2008 | 59,701 | 30,242 | 9,724 | 80,600 | 32,535 | 21,111 | Have no data | 1.6 | 9,530 | 32 | 6,755 |
| Xekong Province | | | | | | | | | | | | | |
| Lamam | in 2009 | Every year | 29,176 | 14,857 | 4,374 | 179,300 | 162,181 | 10,243 | 4 | 2.6 | 3,906 | 50.56 | 5,178 |

Source: PAFO, DAFO, PDMO, DDMO, PWREO in the visited

Schedule of the field trip to the South

Topic: Field trip to three pre-selected provinces in the south on 2 – 10 June 2010

Key resource persons:

- 1) Ms. Phoutsakhone Ounchith National Agriculture Consultant NAPA follow up Project
- 2) Ms. Lakhamvone Boualavanh. Technical officer, NAFRI.

Districts planned to visit:

- Outhoumphone and Champhone district (Savannakhet Province)
- Khongsedone district (Saravanh Province)
- Lamam district (Xekong Province)

Schedule

| Date | Time | Activity | Note |
|--------------|-----------------|---|---|
| 02 June 2010 | | Drive down to Xekong province | |
| 03 June 2010 | 08:30 – 10:00 | Introductory meeting at PAFO; PWREO (Xekong province) | Purpose of field trip and data collection |
| 03 June 2010 | 10:30 - 11:30 | Visit to the PDMO | Information on disaster management |
| 03 June 2010 | 13:00 -16:30 | Visit to DAFO, DDMC and DLMA | |
| 04 June 2010 | 08:00 – 11:00 | Site visit – visit to Lamam district and Kumban | Actual situation on-ground |
| 04 June 2010 | 11:00 | Drive to Saravanh province | |
| 04 June 2010 | 13:00 – 14:30 | Introductory meeting at PAFO; PWREO (Saravanh province) | Purpose of trip and data collection |
| 04 June 2010 | 14:45 - 16:30 | Visit to the PDMO | Info on disaster management |
| 04 June 2010 | 17:00 | Drive to Khongsedon district | |
| 05 June 2010 | 08:30-12:00 | Site visit | |
| 06 June 2010 | Sunday, Day off | | |
| 07 June 2010 | 08:00 – 12:00 | Introductory visits to DAFO, DDMC and DLMA | Agriculture, flood, drought etc problems in the districts |
| 07 June 2010 | 12:00 | Drive up to Savannakhet province | |
| 07 June 2010 | 15:00 – 16:30 | Introductory meeting at PAFO; PWREO (Savannkhet province) | Purpose of field trip and data collection |
| 08 June 2010 | 08:00-09:30 | Visit to the PDMO | Info on disaster management |
| 08 June 2010 | 11:00 – 14:00 | Meeting with DAFO, DDMC and DLMA in Champhone district | Agriculture, flood, drought etc problems in the districts |
| 08 June 2010 | 14:30 – 17:00 | Sites visit – visit to Champhone district | Actual situation on-ground |
| 09 June 2010 | 09:00 – 11:30 | Meeting with DAFO, DDMC and DLMA in Outhoumphone district | Agriculture, flood, drought etc problems in the districts |
| 09 June 2010 | 13:00 – 16:00 | Site visit -- visit to Outhoumphone district | Actual situation on-ground |
| 10 June 2010 | 08:00 | Drive back to Vientiane | |

Schedule of the field trip to the North

Topic: Field trip to potential project sites in the North (Louang Prabang and Xayabouly Province) on 5 – 9 July 2010

Objectives: To inspect four pre-selected sites and collect additional information for final selection of the project locations

Expected outcomes:

- Assessment of real situation in the target project sites (accessibility, infrastructure, communication, etc.)
- Additional information on sites obtained and verified
- Site visit report with recommendations for project sites selection consideration

Participants:

- 1) Ms. Phoutsakhone Ounchith National Agriculture Consultant NAPA follow up Project
- 2) Ms. Hongthong Phetvixay. Technical Staff, NAFRI.

Visited places:

- Louang Prabang and Xieng Ngune districts (Luang Prabang Province);
- Botane, Phiang and Paklai districts (Xayabouly Province)

Schedule

| Date | Time | Activity | Note |
|-------------|--|--|---|
| 05 Jul 2010 | 09:30 – 11:00 11:00 – 12:00 13:00-17:00 17:00-18:00 | -Travel to Luangprabang province (plane) -Meeting with PAFO -Visit DAFO and site visit to Xieng Ngune District/Luangprabang province -Travel to Xayabouly Province by car | Introduce to PAFO and getting more information on Agriculture, flood, drought etc problems in the districts |
| 06 Jul 2010 | 8:00 – 9:00 | Meeting with PAFO Xayabouly Province | Purpose of field trip and more data collection |
| 06 Jul 2010 | 09:00 – 16:00 16:00-17:00 | Drive to Phiang district (Xayabouly Province), meeting DAFO and conduct site visit -Travel back to Xayabouly Town | Getting more information on Agriculture, flood, drought etc problems in the districts |
| 07 Jul 2010 | 08:00-16:00 | Meeting with DAFO Botane District/Xayabouly Province, site visit | Getting more information on Agriculture, flood, drought etc problems in the districts |
| 08 Jul 2010 | 08:00 – 16:00 | Meeting with DAFO Paklai District/Xayabouly province, site visit and get back to Xayabouly Town | Getting more information on Agriculture, flood, drought etc problems in the districts |
| 09 Jul 2010 | 08:00 | Travel to Vientiane Capital | |

List of key resource persons consulted in three pre-selected provinces

| Person | Position | Contract |
|--------------------------------|---|--|
| Xekong Province | | |
| Mr. Bounmy Chitpanya | Head of PAFO | Provincial Agriculture and Forestry Office |
| Mr. Vixiene Palamy | Vice of agriculture and forest Division | Provincial Agriculture and Forestry Office , Agriculture and Forest division Tel: 856 20 55130737 |
| Mr. Sounthone | Head of Planning Division | Provincial Agriculture and Forestry Office, Planning Division. Tel: 020 54251289 |
| Mr. Bounnyoy | Vice of office of Planning Division | Provincial Agriculture and Forestry Office, Planning Division. Tel: 020 56478964 |
| Mr. Bountheung Douangpaseut | Head of DAFO (Lamam district) | DAFO in Lamam district Tel: 020 9994299 |
| Mr. Khamphout | Director | DAFO in Phonexay district Tel: 856 20 2352992 |
| Mr. Souksavai | Vice of PWREO | PWREO |
| Mr. Bounsouan Lathsaphakdy | Head of office | PDMO |
| Mr. Odchai Soulivong | Vice of Disaster management division | PDMO Tel: 020 55830809 |
| Saravanh Province | | |
| Mr. Phommasone Phimvilai | Head of Planning division | PAFO |
| Mr. Sinxay Phetphaenglaxa | Head of Irrigation division | PAFO |
| Mr. Syvanhphakone Vongbounthan | Head of Livestock division | PAFO |
| Ms. Theva Syladouangchai | Head of administrative unit | Agriculture Division, PAFO Tel: 020 44063098 |
| Ms. Vanhnaseut Homehongsa | Technical | Planning division. PAFO Tel: 020 2438334 |
| Ms. Phayvanh Inthavongsy | Head of administrative unit | Irrigation division, PAFO Tel: 020 9678935 Office: 034 211 111 |
| Ms. Khamphiene Phanthabouly | Vice of Livestock and Fishery division | PAFO Tel: 020 6865725 Office: 034 211852 |
| Mr. Southdalai Indavong | Vice of PDMO | PDMO in Saravanh Province Tel: 020 5406356 |
| Ms. Manyvanh | Head of Disaster management division | PDMO in Saravanh Province Tel: 020 55625675 |
| Mr. Kamsouk Phommatham | Vice of Disaster management division | PDMO in Saravanh Province Tel: 020 9331619 |
| Mr. Kingphet Malychansy | Head of DAFO | DAFO in Kohgsedon district Tel: 020 2282777 |
| Mr. Bouasone Chandara | Head of Technical development unit | DAFO in Kongsedon district Tel: 020 2551538; Office: 034 411326 |
| Mr. Sysouk Phommavichith | Vice of DAFO | DAFO in Kongsedon district Tel: 020 2289989; 020 99203222 |
| Mr. Souphith Chanthabouasone | Technical | DAFO in Kongsedon district Tel: 020 9714256 |
| Mr. Sengsouvanh Thebsombath | Vice of DDMO | DDMO in Kongsedon district Tel: 020 2755149 |
| Savannakhet Province | | |
| Mr. Vilaysouk kennavong | Head of PAFO | PAFO in Savannakhet Province |
| Mr. Soundala Touaphanith | Head of Planning section | Planning section, PAFO |
| Ms. Vathsanha | Technical | Planning section, PAFO Tel: 020 99788119 |

| Person | Position | Contract |
|-----------------------------|--|---|
| Mr. Phimxay Inthilath | Head of PDMO | PDMO. Provincial of Labor and Social Welfare Tel: 020 55643354 |
| Ms. KhanKeo Inthichack | Technical of PDMO | PDMO. Provincial of Labor and Social Welfare Tel: 020 2779657 Office: 041 212023 |
| Ms. Vongsone Dethvomgsa | Technical of PDMO | PDMO. Provincial of Labor and Social Welfare Office: 041 212023 |
| Ms. Phaylakhone | Technical of DAFO | Agriculture section, DAFO in Outhumphone district, Savannakhet Province Tel: 020 55253968 |
| Mr. Khamphoune Saensombath | Head of DAFO in Outhumphone district | DAFO in Outhumphone district, Savannakhet Province |
| Mr. Chanthavong Bounpheng | Head of District of Labor and Social Welfare | District of Labor and Social Welfare Tel: 020 56094517 |
| Mr. Banlang | Head of DAFO in Champhone district | DAFO in Champhone district |
| Mr. Khamsavanh | Technical of DAFO | DAFO in Champhone district |
| Luangprabang Province | | |
| Ms. Chanthamaly | Head of PAFO | 020 2350189 |
| Mr. Phetsavong Vorthor | Head of DAFO in Xieng Ngune district | 020 55971080 |
| Mr. Sonephet Keobounma | Technical of DAFO in Xieng Ngune district | 020 55816860; 020 9676624 |
| Xayabouly Province | | |
| Mr. Bouaphan Chanthavong | Head of Planning section. | PAFO in Xayabouly Province. |
| Mrs. Sengthong Phengdy | Technical of PAFO | 020 55877793 |
| Mr. Khammouan Bounyavong | Head of agricultural extension service | 020 5779653 |
| Mr. Vieng Xaisomhaksa | Head of Administrative section | DAFO in Phieng district. 020 55722148 |
| Mr. Bounthong Vudthibamphen | Vice of Administrative section | DAFO in Phieng district. 020 55572688 |
| Ms. Khamhong | Vice of Administrative section | DAFO in Paklai district. 020 2445482 |
| Mr. Phonesavanh | Technical of Irrigation section | DAFO in Paklai district. 020 3388500 |
| Mr. Thongphan | Technical of Agriculture section | DAFO in Paklia district. 020 2414913 |
| Mr. Bounthong Vanna | Head of DAFO in Botane district | DAFO in Botane district. 020 2982560 Office: 074 213014 |
| Mr. Vankham Xayalath | Technical of DAFO in Botane district | DAFO in Botane district. 020 5313623 Office: 074 213014 |

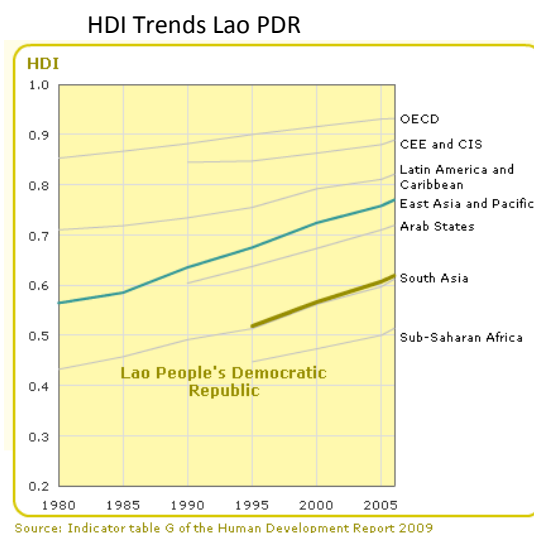
Annex 11: General Facts Sheet Lao PDR

Lao PDR: Mekong Basin, Mountains, Rivers, Watersheds - Landlocked in South East Asia



Lao PDR in the UNDP Human Development Report 2009

Between 1995 and 2007 Lao People's Democratic Republic's HDI rose by 1.26% annually from 0.518 to 0.619 today. HDI scores in all regions have increased progressively over the years (Figure 1) although all have experienced periods of slower growth or even reversals.



The 2009 HDI, which refers to 2007, highlights the very large gaps in well-being and life chances that continue to divide our increasingly interconnected world. The HDI for Lao People's Democratic Republic is 0.619, which gives the country a rank of 133rd out of 182 countries with data.

Historical Background:

Modern-day Laos has its roots in the ancient Lao kingdom of Lan Xang, established in the 14th Century under King FA NGUM. For 300 years Lan Xang had influence reaching into present-day Cambodia and Thailand, as well as over all of what is now Laos. After centuries of gradual decline, Laos came under the domination of Siam (Thailand) from the late 18th century until the late 19th century when it became part of French Indochina. The Franco-Siamese Treaty of 1907 defined the current Lao border with Thailand. In 1975, the Pathet Lao formed the government. A gradual return to private enterprise and the liberalization of foreign investment laws began in 1988. Laos became a member of ASEAN in 1997.

GEOGRAPHY

Location:

Geographic coordinates:

18 00 N, 105 00 E

Area:

total: 236,800 sq km

country comparison to the world: 83

land: 230,800 sq km

water: 6,000 sq km

Land boundaries:

total: 5,083 km

border countries: Burma 235 km, Cambodia 541 km, China 423 km, Thailand 1,754 km, Vietnam 2,130 km

Coastline:

0 km (landlocked)

Current Weather:

tropical monsoon; rainy season (May to November); dry season (December to April)

Terrain:

mostly rugged mountains; some plains and plateaus

Elevation extremes:

lowest point: Mekong River 70 m

highest point: Phou Bia 2,817 m

Natural resources:

timber, hydropower, gypsum, tin, gold, gemstones

Land use:

arable land: 4.01%

permanent crops: 0.34%

other: 95.65% (2005)

Irrigated land:

1,750 sq km (2003)

Total renewable water resources:

333.6 cu km (2003)

Freshwater withdrawal (domestic/industrial/agricultural):

total: 3 cu km/yr (4%/6%/90%)

per capita: 507 cu m/yr (2000)

Natural hazards:

floods, droughts

Environment - current issues:

unexploded ordnance; deforestation; soil erosion; most of the population does not have access to potable water

Environment - international agreements:

party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Law of the Sea, Ozone Layer Protection

POPULATION**Population:**

6,993,767 (July 2010 est.)

country comparison to the world: 100

Age structure:

0-14 years: 40.5% (male 1,422,818/female 1,406,929)

15-64 years: 56.5% (male 1,956,091/female 1,994,196)

65 years and over: 3.1% (male 91,453/female 122,280) (2010 est.)

Median age:

total: 19.5 years

male: 19.2 years

female: 19.8 years (2010 est.)

Population growth rate:

2.292% (2010 est.)

country comparison to the world: 36

Birth rate:

33.44 births/1,000 population (2010 est.)
country comparison to the world: 39

Death rate:

10.52 deaths/1,000 population (July 2010 est.)
country comparison to the world: 51

Urbanization:

urban population: 31% of total population (2008)
rate of urbanization: 5.6% annual rate of change (2005-10 est.)

Sex ratio:

at birth: 1.05 male(s)/female
under 15 years: 1.01 male(s)/female
15-64 years: 0.98 male(s)/female
65 years and over: 0.75 male(s)/female
total population: 0.98 male(s)/female (2010 est.)

Infant mortality rate:

total: 76.01 deaths/1,000 live births
country comparison to the world: 21
male: 85.04 deaths/1,000 live births
female: 66.52 deaths/1,000 live births (2010 est.)

Life expectancy at birth:

total population: 56.96 years
country comparison to the world: 194
male: 54.81 years
female: 59.21 years (2010 est.)

Total fertility rate:

4.33 children born/woman (2010 est.)
country comparison to the world: 40

HIV/AIDS - adult prevalence rate:

0.2% (2007 est.)
country comparison to the world: 98

HIV/AIDS - people living with HIV/AIDS:

5,500 (2007 est.)
country comparison to the world: 122

Major infectious diseases:

food or waterborne diseases: bacterial and protozoal diarrhea, hepatitis A, and typhoid fever, vectorborne diseases: dengue fever and malaria

Ethnic groups:

Lao 55%, Khmou 11%, Hmong 8%, other (over 100 minor ethnic groups) 26% (2005 census)

Religions:

Buddhist 67%, Christian 1.5%, other and unspecified 31.5% (2005 census)

Languages:

Lao (official), French, English, and various ethnic languages

Literacy:

definition: age 15 and over can read and write
total population: 68.7%
male: 77%

female: 60.9% (2001 est.)

School life expectancy (primary to tertiary education):

total: 9 years

male: 10 years

female: 8 years (2006)

Education expenditures:

3% of GDP (2006)

country comparison to the world: 146

ADMINISTRATION AND GOVERNMENT

Country name:

conventional long form: Lao People's Democratic Republic

conventional short form: Laos

local long form: Sathalانات Paxathipatai Paxaxon Lao

local short form: Pathet Lao (unofficial)

Capital name: Vientiane (Viangchan)

geographic coordinates: 17 58 N, 102 36 E

time difference: UTC+7

Administrative divisions:

16 provinces (khoueng, singular and plural) and 1 capital city* (nakhon luang, singular and plural); Attapu, Bokeo Bolikhamxai, Champasak, Houaphan, Khammouan, Louangnamtha, Louangphrabang, Oudomxai, Phongsali, Salavan Savannakhet, Viangchan (Vientiane)*, Viangchan, Xaignabouli, Xekong, Xiangkhoang

Independence:

19 July 1949 (from France)

National holiday:

Republic Day, 2 December (1975)

Constitution:

promulgated 14 August 1991; amended in 2003

Legal system:

based on traditional customs, French legal norms and procedures, and socialist practice

Executive branch:

Chief of state: President Lt. Gen. CHOUMMALI Saignason (since 8 June 2006); Vice President BOUN-GNANG Volachit (since 8 June 2006)

Head of government: Prime Minister BOUASONE Boupavanh (since 8 June 2006); Deputy Prime Ministers Maj. Gen ASANG Laoli (since May 2002), Lt. Gen. DOUANGCHAI Phichit (since 8 June 2006), SOMSAVAT Lengsavat (since 26 February 1998), and THONGLOUN Sisoulit (since 27 March 2001)

cabinet: Ministers appointed by president, approved by National Assembly

Elections: president and vice president elected by National Assembly for five-year terms; election last held on 8 June 2006 (next to be held in 2011); prime minister nominated by the president and elected by the National Assembly for five-year term

Election results: CHOUMMALI Saignason elected president; BOUN-GNANG Volachit elected vice president; percent of National Assembly vote - 100%; BOUASONE Boupavanh elected prime minister; percent of National Assembly vote - 97%

Legislative branch:

Unicameral National Assembly (115 seats; members elected by popular vote from a list of candidates selected by the Lao People's Revolutionary Party to serve five-year terms

Elections: last held 30 April 2006 (next to be held in 2011)

Election results: seats by party - LPRP 113, independents 2

Judicial branch:

People's Supreme Court (the president of the People's Supreme Court is elected by the National Assembly on the recommendation of the National Assembly Standing Committee; the vice president of the People's Supreme Court and the judges are appointed by the National Assembly Standing Committee)

Political parties and leaders:

Lao People's Revolutionary Party or LPRP [CHOUMMALI Saignason]

International organization participation:

ADB, APT, ARF, ASEAN, CP, EAS, FAO, G-77, IBRD, ICAO, ICRM, IDA, IFAD, IFC, IFRCS, ILO, IMF, Interpol, IOC, IPU, ISC (subscriber), ITU, MIGA, NAM, OIF, OPCW, PCA, UN, UNCTAD, UNESCO, UNIDO, UNWTO, UPU, WCO, WFTU, WHO, WIPO, WMO, WTO (observer)

Flag description:

three horizontal bands of red (top), blue (double width), and red with a large white disk centered in the blue band

ECONOMY

Economy - overview:

The government of Laos began decentralizing control and encouraging private enterprise in 1986. The results, starting from an extremely low base, were striking - growth averaged 6% per year from 1988-2008 except during the short-lived drop caused by the Asian financial crisis that began in 1997. Despite this high growth rate, Laos remains a country with an underdeveloped infrastructure, particularly in rural areas. It has a rudimentary, but improving, road system, and limited external and internal telecommunications. Electricity is available in urban areas and in many rural districts. Subsistence agriculture, dominated by rice cultivation in lowland areas, accounts for about 30% of GDP and provides 80% of total employment. The government in FY08/09 received \$560 million from international donors. Economic growth has reduced official poverty rates from 46% in 1992 to 26% in 2009. The economy has benefited from high foreign investment in hydropower, mining, and construction. Laos is taking steps required to join the World Trade Organization, such as reforming import licensing. Related trade policy reforms will improve the business environment. On the fiscal side, Laos launched an effort to ensure the collection of taxes in 2009 as the global economic slowdown reduced revenues from mining projects. Simplified investment procedures and expanded bank credits for small farmers and small entrepreneurs will improve Lao's economic prospects. The government appears committed to raising the country's profile among investors. The World Bank has declared that Laos's goal of graduating from the UN Development Program's list of least-developed countries by 2020 is achievable. According to Laotian officials, the 7th Socio-Economic Development Plan for 2011-15 will outline efforts to achieve Millennium Development Goals.

GDP (purchasing power parity):

\$15.07 billion (2009 est.)

country comparison to the world: 135

\$14.16 billion (2008 est.)

\$13.21 billion (2007 est.)

note: data are in 2009 US dollars

GDP (official exchange rate):

\$5.788 billion (2009 est.)

GDP - real growth rate:

6.4% (2009 est.)

country comparison to the world: 14

7.2% (2008 est.)

7.8% (2007 est.)

GDP - per capita (PPP):

\$2,100 (2009 est.)

country comparison to the world: 186

\$2,100 (2008 est.)

\$2,000 (2007 est.)

note: data are in 2009 US dollars

GDP - composition by sector:

agriculture: 29.9%

industry: 33.1%
services: 37% (2009 est.)

Labor force:

3.65 million (2009 est.)
country comparison to the world: 94

Labor force - by occupation:

agriculture: 80%
industry and services: 20% (2009 est.)

Unemployment rate:

2.5% (2009 est.)
country comparison to the world: 20
2.4% (2005 est.)

Population below poverty line:

26% (2009 est.)

Household income or consumption by percentage share:

lowest 10%: 3.4%
highest 10%: 28.5% (2002)

Distribution of family income - Gini index:

34.6 (2002)
country comparison to the world: 88
37 (1997)

Budget:

revenues: \$845 million
expenditures: \$1.3 billion (2009 est.)

Inflation rate (consumer prices):

0% (2009 est.)
country comparison to the world: 20
8.6% (2008 est.)

Commercial bank prime lending rate:

11% (30 November 2009)
country comparison to the world: 13
24% (31 December 2008)

Stock of domestic credit:

\$832.2 million (31 December 2009)
country comparison to the world: 115
\$285.8 million (31 December 2007)

Agriculture - products:

sweet potatoes, vegetables, corn, coffee, sugarcane, tobacco, cotton, tea, peanuts, rice; water buffalo, pigs, cattle, poultry

Industries:

copper, tin, gold, and gypsum mining; timber, electric power, agricultural processing, construction, garments, cement, tourism

Industrial production growth rate:

2.3% (2009 est.)
country comparison to the world: 49

Electricity - production:

1.656 billion kWh (2009 est.)
country comparison to the world: 137

Electricity - consumption:

1.798 billion kWh (2009 est.)
country comparison to the world: 137

Electricity - exports:

230 million kWh (2009 est.)

Electricity - imports:

819.5 million kWh (2009 est.)

Exports:

\$1.273 billion (2009 est.)
country comparison to the world: 139
\$1.446 billion (2008 est.)

Exports - commodities:

wood products, coffee, electricity, tin, copper, gold

Exports - partners:

Thailand 35.4%, Vietnam 15.5%, China 8.5% (2008)

Imports:

\$2.034 billion (2009 est.)
country comparison to the world: 150
\$2.342 billion (2008 est.)

Imports - commodities:

machinery and equipment, vehicles, fuel, consumer goods

Imports - partners:

Thailand 68.3%, China 10.4%, Vietnam 5.8% (2008)

Exchange rates:

kips (LAK) per US dollar - 8,556.56 (2009), 8,760.69 (2008), 9,658 (2007), 10,235 (2006), 10,820 (2005)

Roadways:

total: 29,811 km
country comparison to the world: 97
paved: 4,010 km
unpaved: 25,801 km (2006)

Waterways:

4,600 km
country comparison to the world: 24
note: primarily Mekong and tributaries; 2,900 additional km are intermittently navigable by craft drawing less than 0.5 m (2008)

Transnational Issues

Southeast Asian states have enhanced border surveillance to check the spread of avian flu; talks continue on completion of demarcation with Thailand but disputes remain over islands in the Mekong River; concern among Mekong Commission members that China's construction of dams on the Mekong River will affect water levels

Annex 12: References

The PPG team has established access to the LaoFAB Document Repository web site.

Log in at: <http://www.laofab.org/>

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The Indo-Burma hotspot comprises the Southeast Asian nations of Vietnam, Thailand, Cambodia, Laos, Myanmar, and portions of eastern India and southern China <http://www.enviroliteracy.org/article.php/498.html>