ANNEXES

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Annex 1: Climate Change Risk Analysis

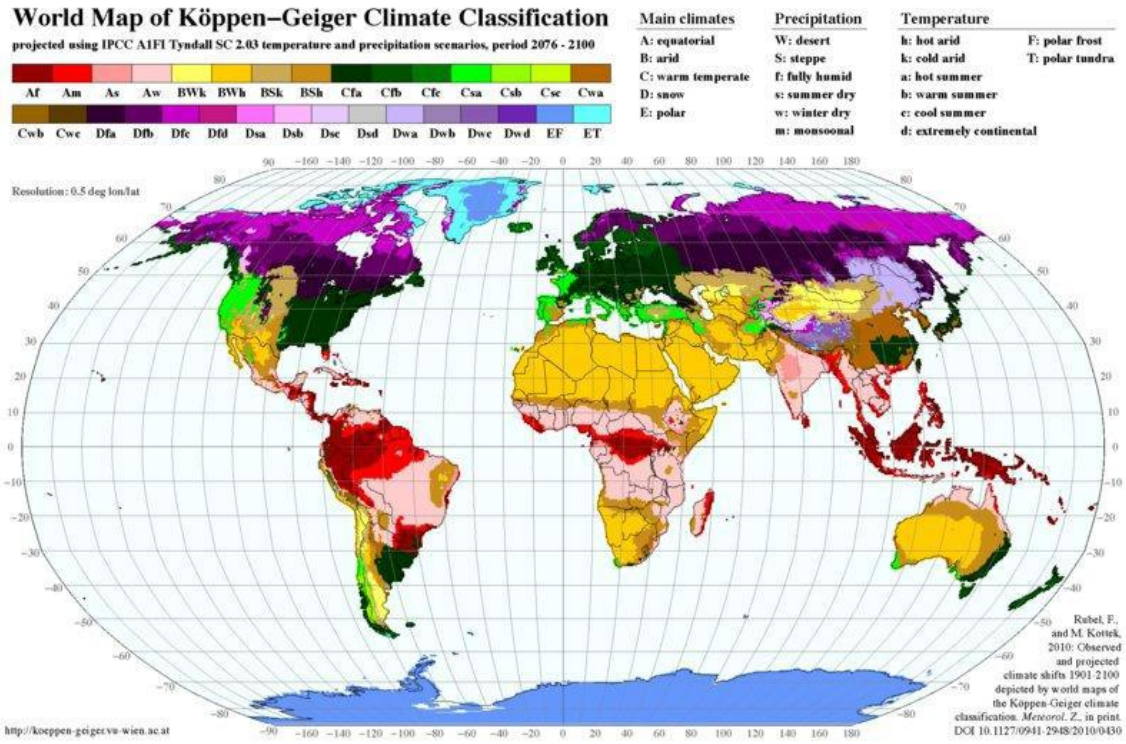
1. World Climate Classification and Lao PDR

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

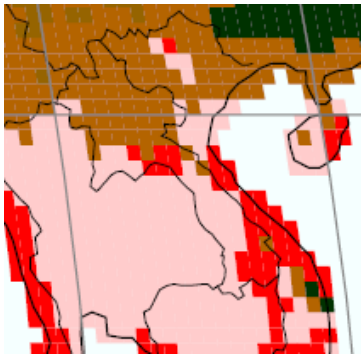
MAP Climatic Zones



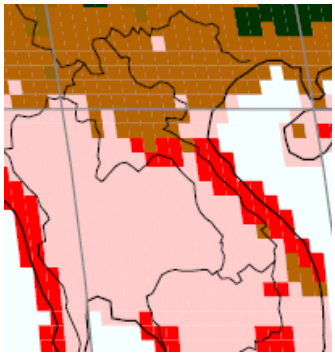
2. Observed situation for Lao PDR:

According to the updated Koeppen-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



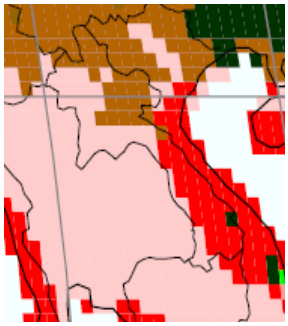
Observed 1976-2000



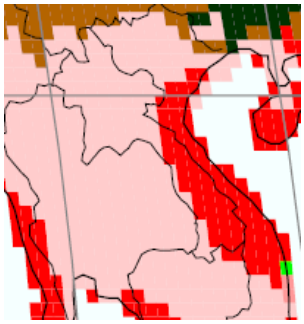
Future situation under selected IPCC scenarios

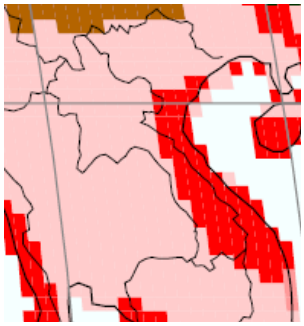
IPCC Scenario: A1F1

2001-2025 **2026-2050** **2051-2075** **2076-2100**



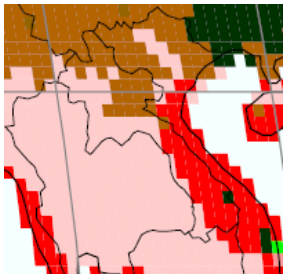
map

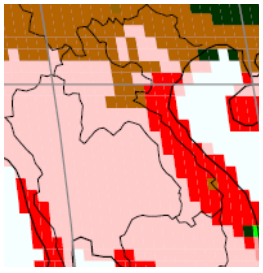




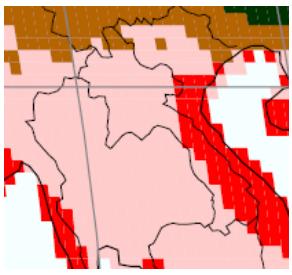
IPCC Scenario: B1

2001-2025 **2026-2050** **2051-2075** **2076-2100**





map



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	Phanom 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	Stations	Year	Average discharge (m3/s)	Return period (year)
1	Luang Prabang	1957 1992 1958 1987 1956 1967	2286 2422 2842 3040 3163 3424	200 90 15 10 8 4
2	Vientiane	1957 1992 1931 1958 1967 1977	2677 2850 3211 3332 3975 4111	250 100 30 20 5 4
3	Nong Khai (Thailand)	1992 1987 1988 1989 1972 1979 1977 1998	2791 3552 3665 3716 3811 3876 4052 4026	120 12 9 8 7 6 1 4
4	Nakhon Phanom (Thailand)	1992 1987 1988 1977 1967 1957	4378 5040 5291 5403 5841 6157	250 48 28 23 11 7
5	Mukdahan (Thailand)	1992 1977 1998 1987 1967	5256 5407 5787 6008 6828	100 73 33 22 7
6	Pakse	1998 1992 1977 1988 1987 1968	6835 7128 7336 7389 7742 8159	80 50 35 33 20 12
7	StungTreng (Cambodia)	1998 1988 1977 1987 1959 1968	9403 9689 10360 10676 11255 11326	120 90 40 25 14 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.

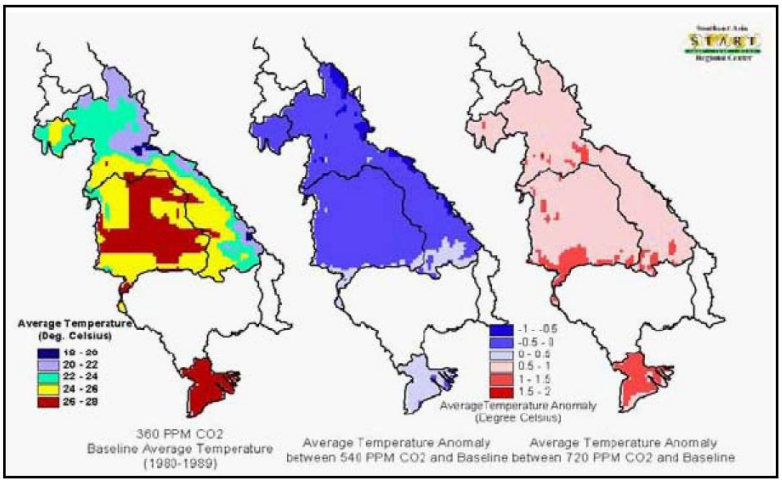
TABLE 5. The highest average temperature (°C) in each region of Lao PDR

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 CO_2 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.

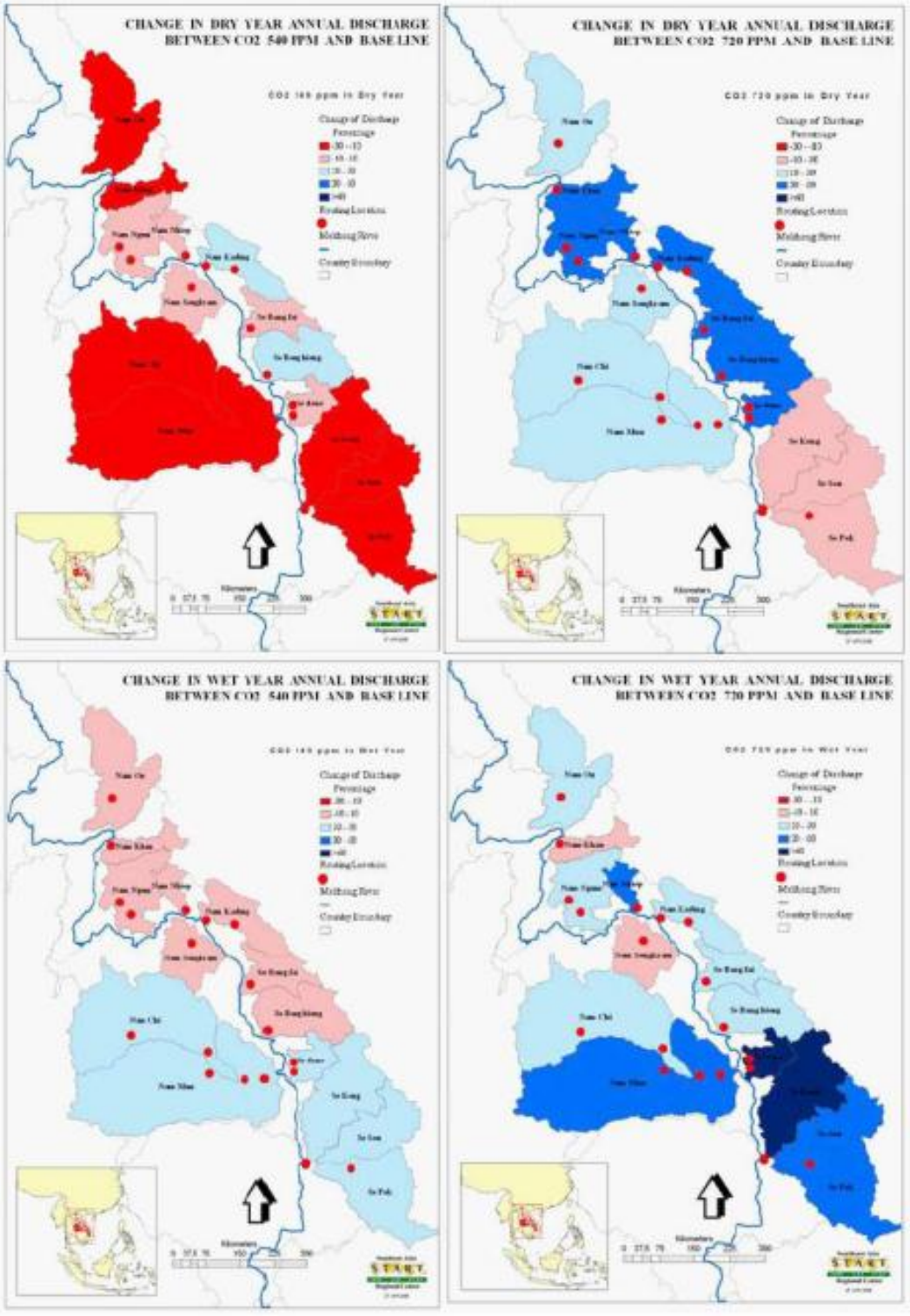
TABLE 12. Losses caused by serious drought in 2003

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 (Phongsalay); Xaysetha (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); Xiengkhore (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 CO_2; wet year: baseline, 540 & 720 ppm CO_2)



Source: SEA START technical (Snidvongs, 2006).

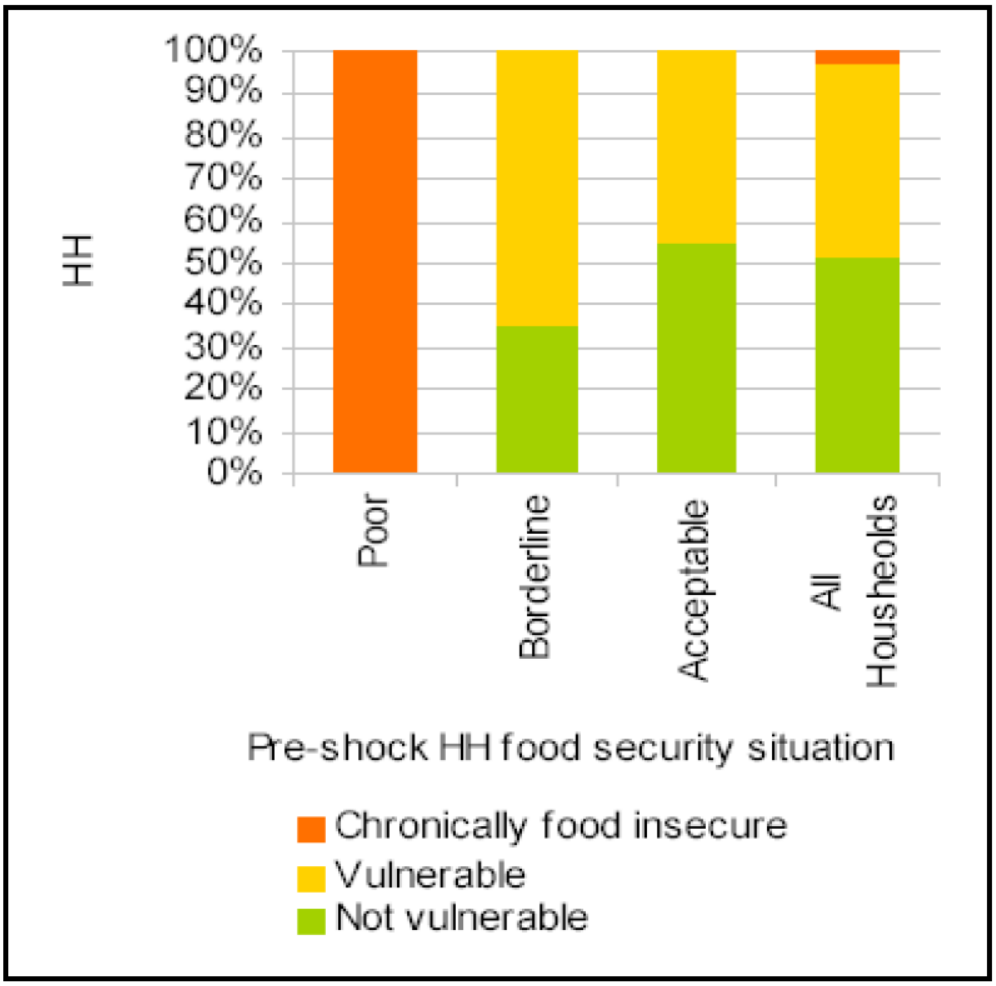
5. **Type and frequency of natural disasters and individual vulnerability of the Lao PDR population**

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.

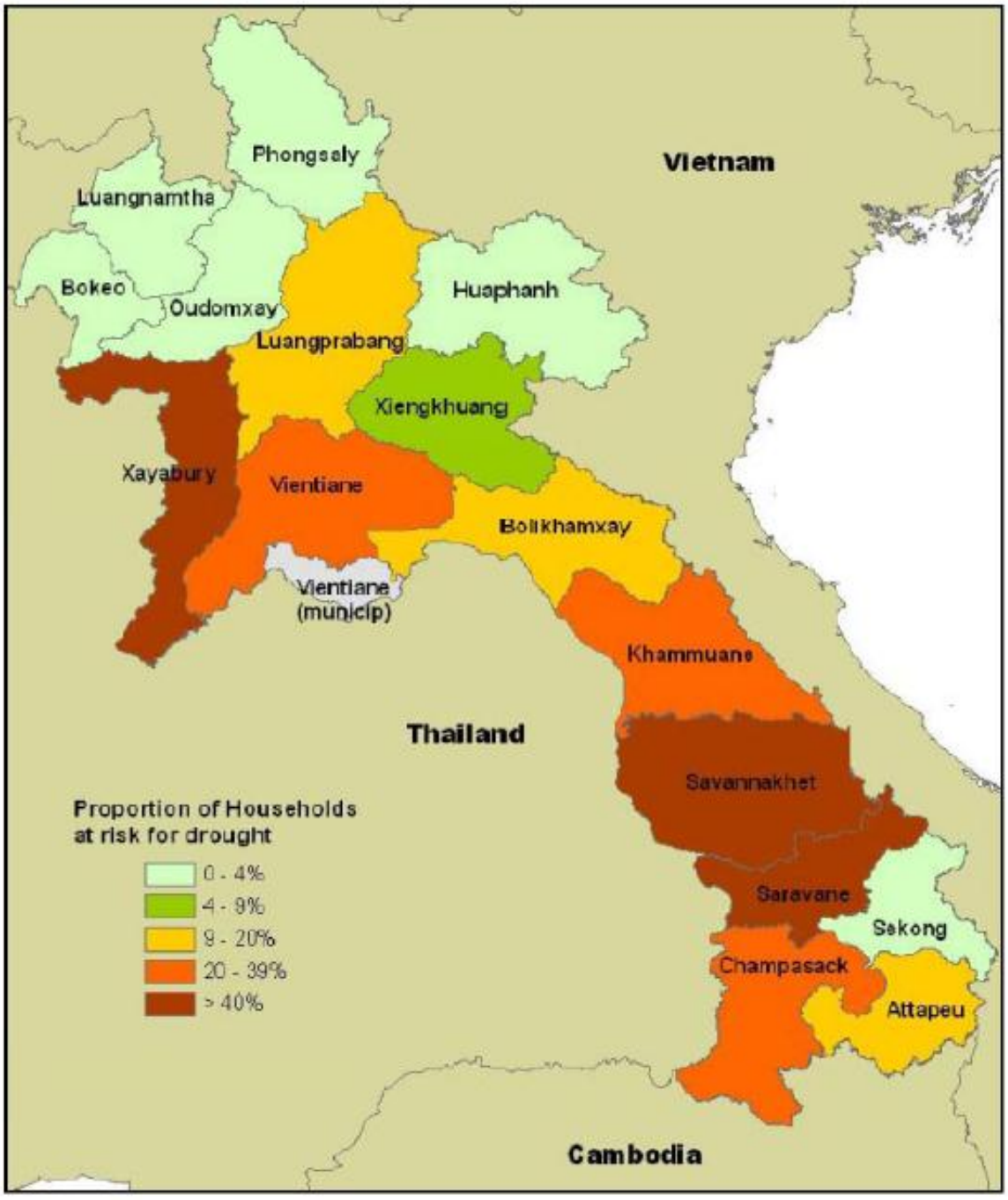
FIGURE 8. Vulnerability to becoming food insecure from drought in relation to pre-shock food security



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

Economy and Environment Program for Southeast 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).

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

Reference:

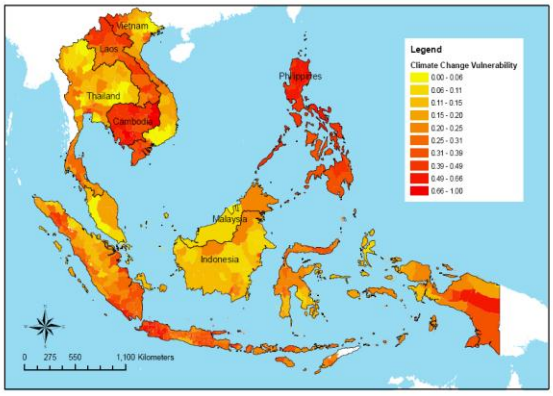


Figure 6. Climate change vulnerability map of Southeast Asia

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.

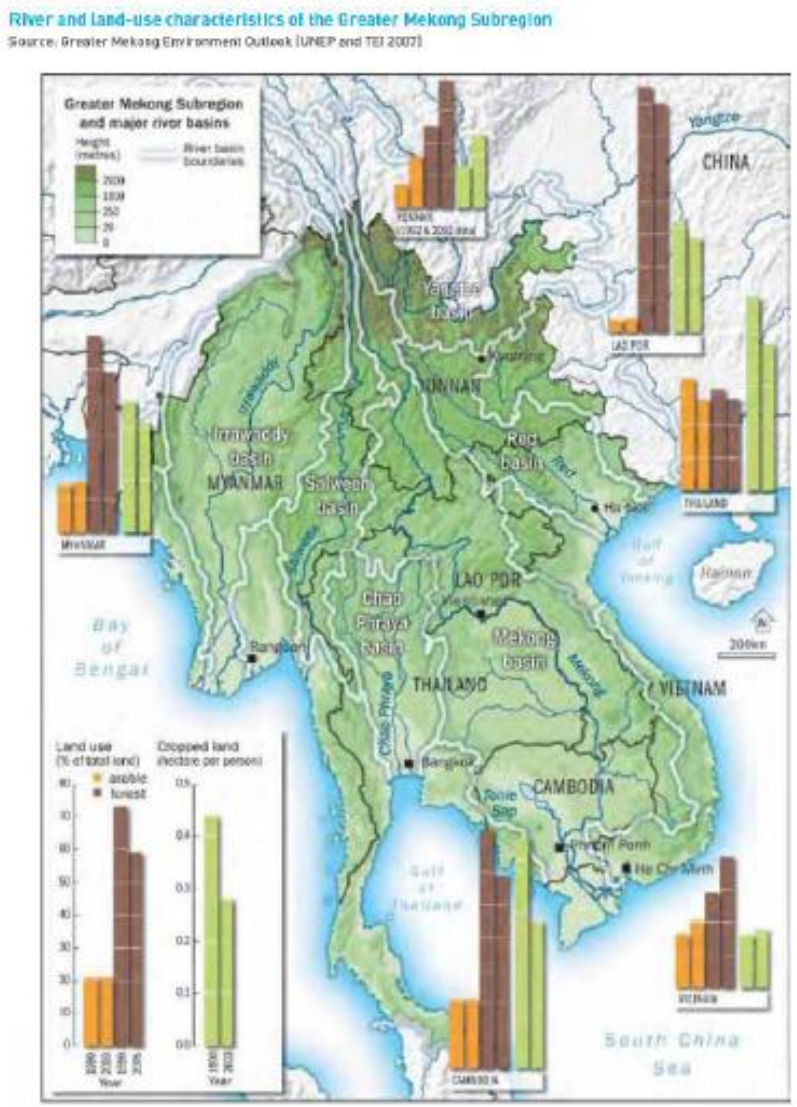
Country vulnerability:

> "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:
>
> Vulnerability = f(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.

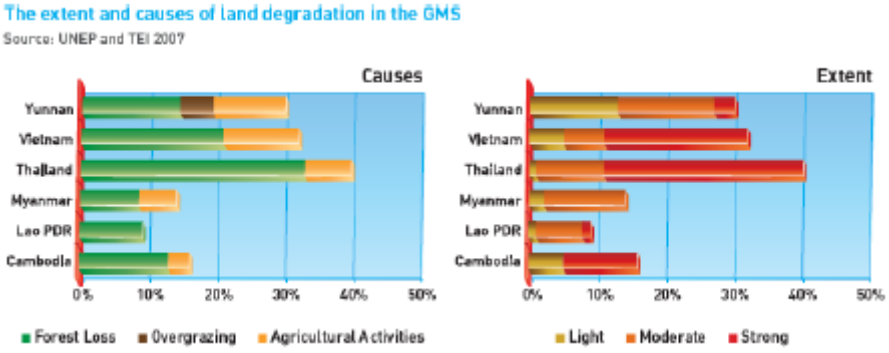
7. Other analyses related to agriculture, natural resources management and demography

MAP Land Use Lao PDR



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.)

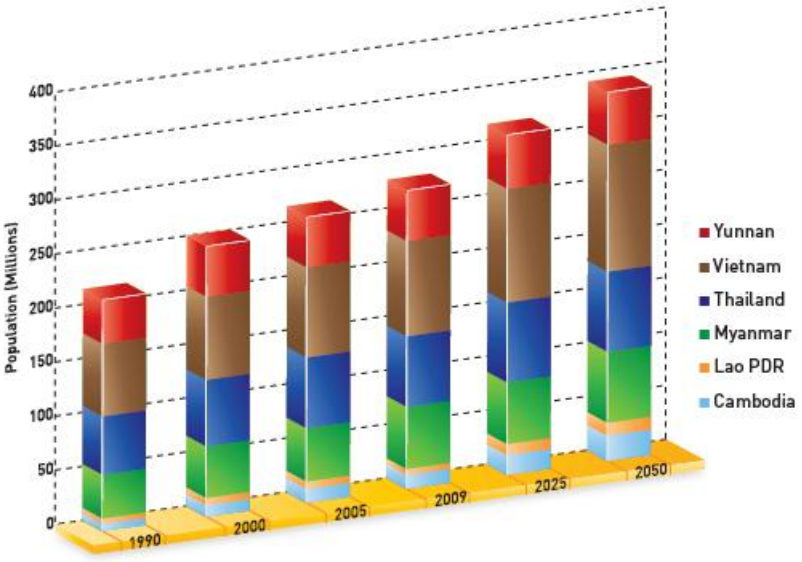
Map Land Degradation



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, Vientiana
- 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 Boungma, Kumban.
Luang Nam Tha Province	
4	**Nam Tha district** - Poung, 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

Triangulation of Findings

Person	Position	Organization / Address
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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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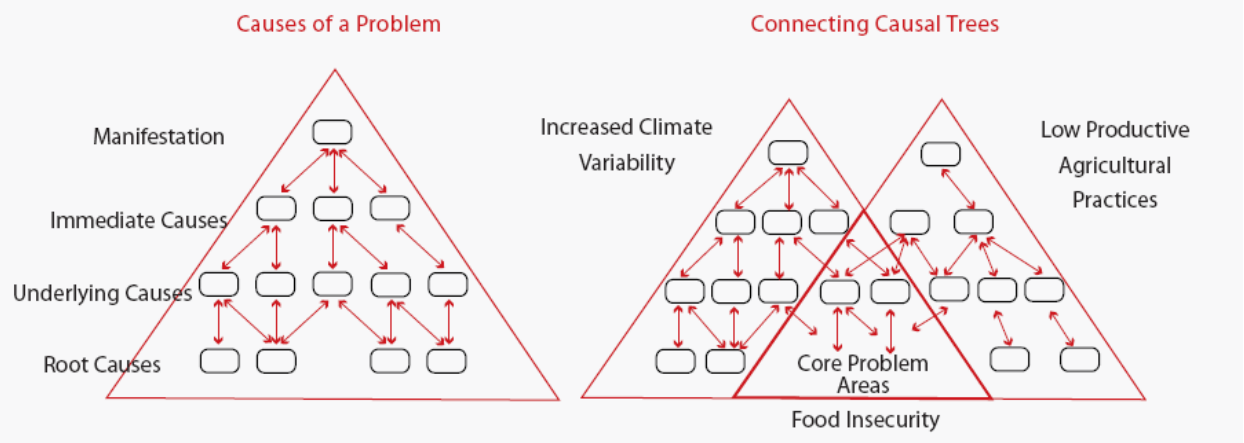
Annex 2.2: Consultation Session NAFRI 25th of March 2010 (WS1)

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 an as 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 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)

List of Participants on Information and Consultation Session on 25 March 2010

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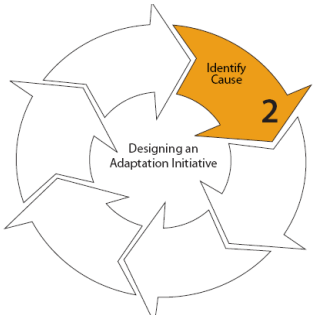
37	Manuel Bertomeu	Advisor RMD		

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 focuesd 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 focuesd 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

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 systen by using new techniques. Irrigation needed, then they can do agriculture in the dry season, and they also need training.

		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

				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.

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.			

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 *Thateang and Lamam districts* 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.

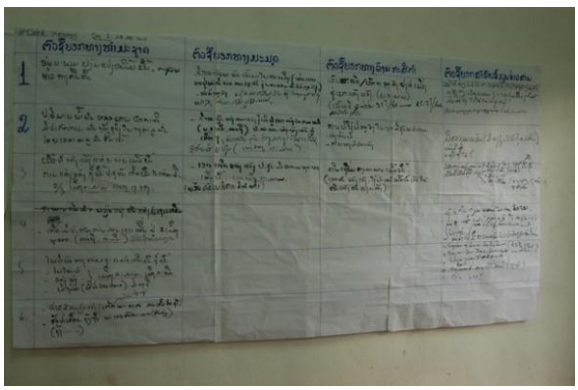
6	Tree growth changing (fungi, slow growth). Migration of animals, diseases of animals.			

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 permanents 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	

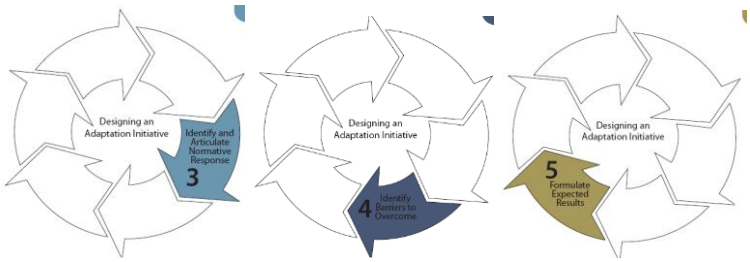
List of members of each group

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 Phommanylay	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. Khamsamay	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 Keooudone	Agriculture office in Champhone district, Savannakhet province	5441247
5	Mr. Phetdavong Bounmysavanh	Head of PWREA, Xekong province	5431171
6	Mr. Bounsou Vongsavanh	Land Use Autrority, Savannakhet province	5643024
7	Mr. Chanthavong Phommanylay	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

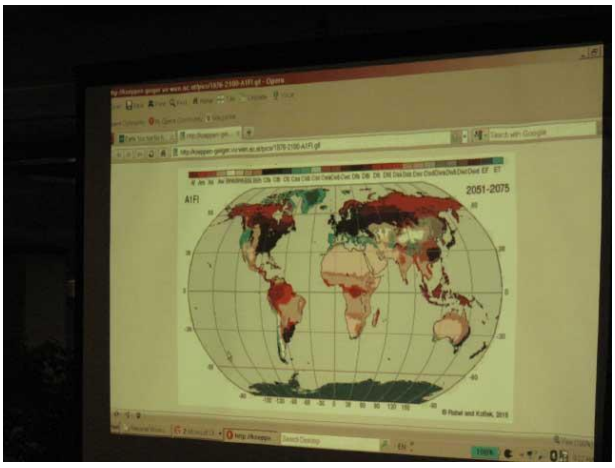
No	Name	Position	institute	Telephone & Email
1	Kinnalone Phommasack	NAPA follow up project coordinator assistant	NAFRI	2006777
2	Somsack Somthavong	Technical	DoF	5920357
3	Lea Manyvong	Technical	DoA	3012428
4	Manuel Bertomeu	NAFRI RMD Advisor	NAFRI	3035599
5	Chanhsom Manythong		ADB	5784888

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	pounchith@yahoo.com
26	Singha Ounniyom	Programme Analyst	UNDP, Environment Unit	Singha.Ounniyom@undp.org ; 020 4040749
27	Bouageun Oudonehit	Head of Cliamate 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	pounchith@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)?**
• 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	• 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	**Policy/Administrative Level** • 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 **Technical Level** • Lack of human resources and capacity • Limitations of extension service • Lack of agriculture techniques **Village Level** • 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?**
• 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	• 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	• 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 • CO_2 + N reduction • Clean/renewable energy development • Incentives for forest conservation/soil • Reduce CO_2 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	• 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

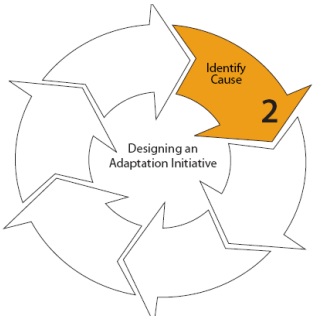
Session 4 - "Barriers to overcome"

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**
• 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	• 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	• 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	• 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 planers 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**
• Vulnerabilities to be added • In addition to strengthening knowledge base: fill up knowledge gaps • Sustainable agro-forestry system • Local coping mechanism	• 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 (! ?)	• 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): - Provide techniques & seeds to farmer groups - CC adaptation workshop to the farmers	• 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 Ounchiht

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. Phoukhoune, 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)**	• 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: • Area= 1,097 km^2 • 28 Kumbans • Agriculture area = 15,610.82 Km^2 • Population = 17,499. • F = 8,775. M = 8,724
2	Kumban Meung Pheing, Kumban Naxing, Kumban Phonesaath. **(Phieng district)**	• Droughts and floods in this district • Have irrigation systems, but not enough water • Low yield	Phieng district: • Area= 2,826 Km^2 • 53 Kumband • Agriculture area = 32,720.14 ha • Population = 52,753. • F = 25,998. M = 26,755
3	Kumban Pha kea, Kumban Boungma, Kumban. **(Pak Lai district)**	• 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: • Area= 2,416 Km^2 • 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 – Poung, Pasak, Nanoy and Mai villages**	• 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: • 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, Donekhoune, Tha Or, and Mai villages**	• These villages are in flood areas • Erosion – Agricultural land reduction	
3	**Long district –** Luang Pha Kha, chom Chaeng, Aisaeng	• Erosion – Agricultural land reduction affects agriculture production	

Oudomxay Province			
1	**Xay district** – Kumban Nam Bak	• 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	Xay district includes: • 99 villages, 12 Kumbanw • HH = 12,443 • Families = 15,418 • Population = 71,139. F = 35,153 Kumban Houa Nam Bak: • 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 viilages	• 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	La district : • 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	• 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	Xieng Ngeun district: • 70 villages • HH = 5,684 • Population = 32,116. F = 16,273. M = 15,843 • Area = 1,210 Km^2 • Density = 27 person/Km^2
2	**Luang Pra Bang district** – Kumban Kok Van, and Kumban Xaen Kha Lok	• Drought and flood areas • Diseases on plants and animals	Luang Pra Bang district: • 116 villages • HH =14,066 • Population = 80,808. • F = 39,838. M = 40,970 • Area = 818 Km^2 • Density = 99 persons/ Km^2
3	**Nam Bak district** – Kumban Nayang	• Drought and flood areas • Diseases on plants and animals • Erosion • The main agriculture activity is paddy rice	Nam Bak district: • 83 villages • HH = 11,282 • Population = 65,455. • F = 32,779. M = 32,685 • Area = 1,524 Km^2 • Density = 43 persons/Km^2

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	ProvincialTransportation 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				
1	Mr. Kongsy Vongsy	Vice of PAFO	PAFO	
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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
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6	Mr. Somboune	Technical staff	Provincial Land Use Authority	
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8	Mr. Xayphachan	Technical staff	PDMO	
Luangprabang Province				
1	Mr. Bounpheng Vongpanya	Vice of PWREA	PWREA	020 2355261
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Minutes prepared by: Ms. Phoutsakhone Ounchith. 25 June 2010

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, Worlbank)
  - 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
National level									
	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	
Provincial level									
	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
District / Kumban level									
	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
	production, and promote industrial processing of products 4. Adopt agriculture, forestry and fisheries research strategies to the government economic development programs. 5. Produce and disseminate information on agriculture, forestry and fisheries practices and technologies. 6. Coordinate agriculture research within Laos and collaborate with international organizations to improve information sharing.	with Lao PDR High potential for international networking Good potential for innovation	services, such as: Land use planning, market analysis and development, agro-ecological analysis, formation of community based organizations. **Marketing and socio-economic research**: understanding value chains, agro-enterprise development, livelihood and gender focused research, and indigenous knowledge **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. **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.	High motivation Practical guidelines to assist interactions between key players in process to be developed Monitoring and review of the effectiveness of the components to be developed
		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		
MAF National Agriculture and Forestry Extension Service	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	Pending on quality of technical inputs, outputs, services	Develop organizational performance and functioning capabilities on technical level	Nation-wide presence Experience working in a project mode and with international staff Practical guidelines to assist interactions between key players

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 Implementers 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)	• Support to maintain strategic direction towardsAA2CC 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 beneficieries. 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 abd 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	
• **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.
• **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.
• **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.
• **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.
• **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.
• **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.
• **AA2CC Farming inputs**	Agriculture/forestry inputs outside the extension process on farm level: tools, seed production, animal feed and health, nurseries
• **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.
• **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.
• **AA2CC Regional conferences**	Organization of annul or bi-annual conferences on AA2CC issues, organized by NAFRI in collaboration with other GMS partners. ADB has indicated support.
Others	
• **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
****

No 1066 /MAF
Date: 02 AUG 2010

Ministry of Agriculture and Forestry
Tel: 856-21 412340
Fax: 856-21 412344
E-mail: Laomafdici@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.

Yours Sincerely,

Sitaheng RASPHONE
Minister
Ministry of Agriculture and Forestry

United Nations Development Programme

UNDP Lao PDR

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.

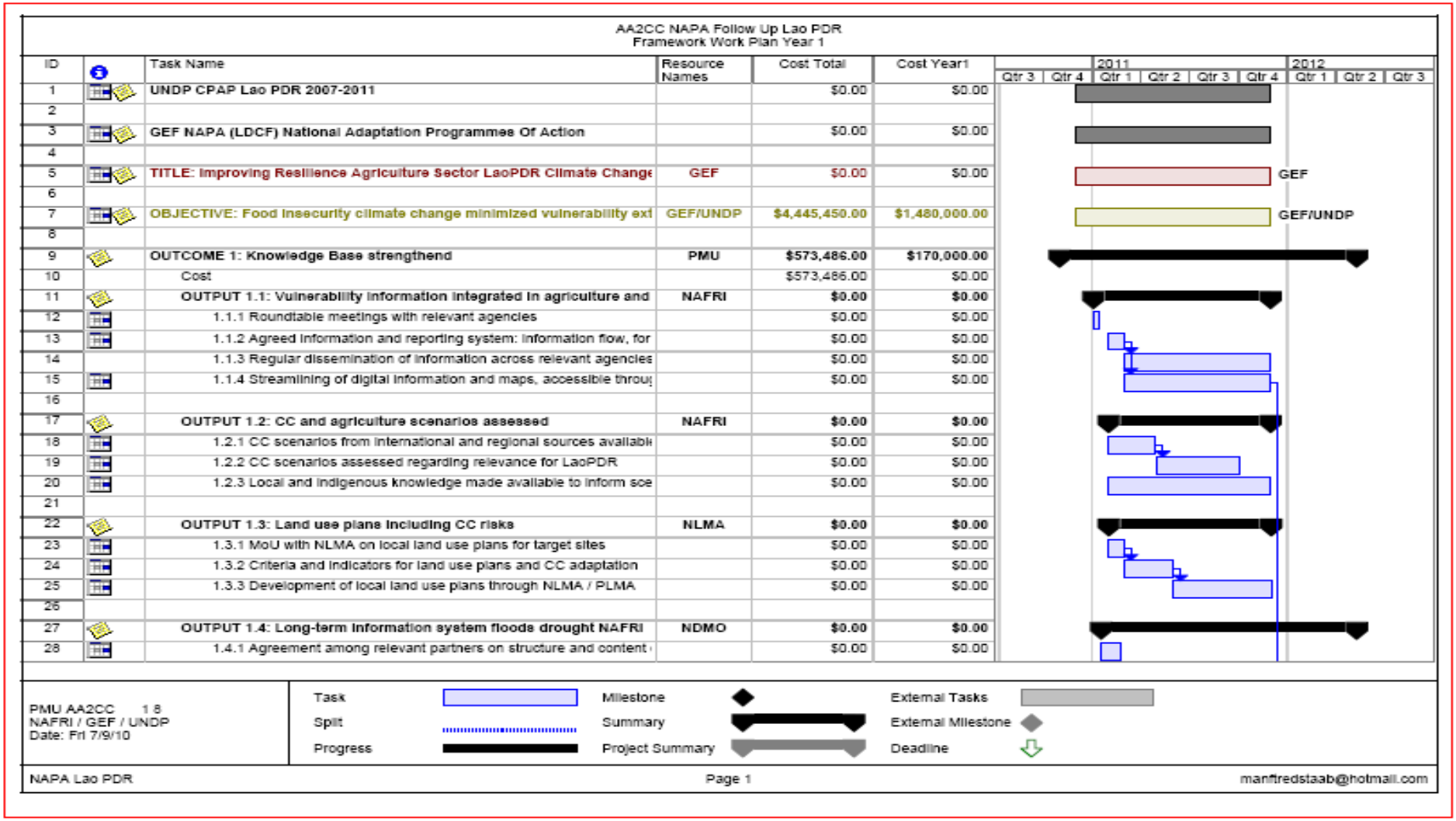
Yours sincerely,

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
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 strengthend**	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 available		$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 1.8
NAFRI / GEF / UNDP
Date: Fri 7/9/10

Task
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Summary
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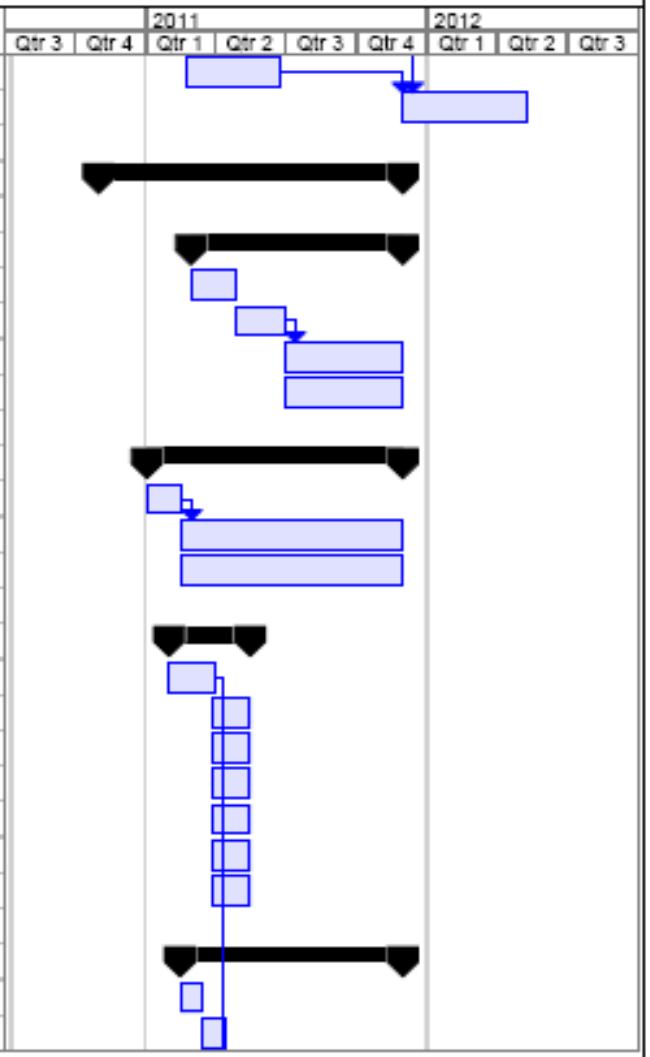
NAPA Lao PDR
Page 1
manfredstaab@hotmail.com

AA2CC NAPA Follow Up Lao PDR
Framework Work Plan Year 1

ID	Task Name	Resource Names	Cost Total	Cost Year1
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 strengthr**	**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
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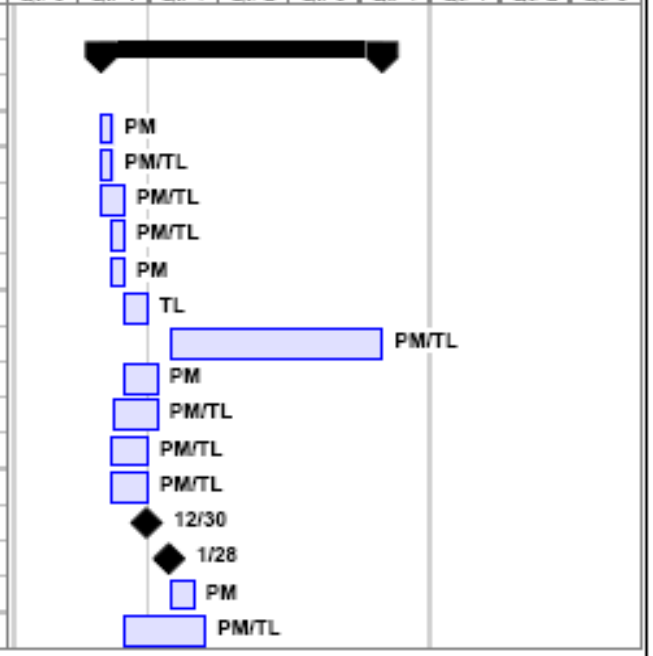
AA2CC NAPA Follow Up Lao PDR
Framework Work Plan Year 1

ID	Task Name	Resource Names	Cost Total	Cost Year1
113				
114	**OUTCOME 5: Project efficiently and effectively managend 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
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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 it 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 strengthend**

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)

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**
2/2011Land Use Planning for CC
2/2011Training Needs Analysis for Agriculture Adaptation to Climate Change (AA2CC)
3/2011Community based agricultural extension for AA2CC
3/2011Farming systems and AA2CC
4/2011Early warning systems for agriculture and CC hazards
4/2011Efficient water management and water harvesting
5/2011Institutional development for mainstreaming CC within MAF/GoL
5/2011Training in curricula development for AA2CC
6/2011CC scenario analysis for Lao PDR
6/2011Effective management of farmer organizations
7/2011Supply chains for agricultural inputs in support to agriculture adaptation
9/2011WWW/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.**	1.1.1Roundtable 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	16 meetings 1 info system 12 reports 1 website, 8 updates
	1.2 Scenarios for agricultural production in Lao PDR assessed on the basis **of local expertise**, regional and global Climate Change models	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 database X reports 8 workshops in provinces
	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**	1.3.1 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 MoU 1 planning handbook 2 land use plans
	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**	1.4.1 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	1 MoU 1 database

Objectives Hierarchy	Outputs	Indicative Activities	Targets End of Project
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)**	**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)	2.1.1 TNA in relevant GoL agencies, and on provincial, district, kumban and village levels 2.1.2 Training curricula provided 2.1.3 Training implemented 2.1.4 Training assessed	1 TNA X curricula X training days 1 report
	2.2 Climate resilient land-use planning integrated into Lao PDR's poverty reduction and agricultural policies & action plans	2.2.1 Relevant strategies, policies, plans identified and reviewed 2.2.2 Dialogue with relevant agencies on CC modifications and amendments 2.2.3 Relevant strategies, policies, plans updated	1 MoU 1 report
	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)	2.3.1 Methodology for CC Training and Adaptation Modules (CCTAM) developed with relevant organizations on provincial, district, kumban and village levels 2.3.2 CCTAM Crop/Agro-Forestry 2.3.3 CCTAM Small Livestock 2.3.4 CCTAM Fisheries/Aquaculture 2.3.5 CCTAM Fruit/Vegetables 2.3.6 CCTAM Off-farm adaptation / income 2.3.7 CCTAM "Safeguarding Land" programme for schools, pagodas etc.	1 strategy 6 training and extension modules
	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**	2.4.1 TNA DDMCs 2.4.2 Training curricula provided 2.4.3 Training curricula implemented 2.4.4 Annual ground practice with communities 2.4.5 Training and ground practice assessed	1 TNA X training days 8 ground practice events
Outcome 3 Community-based adaptive agricultural practices	**3.1 Resilient elements in existing farming systems identified and thoroughly strengthened**	3.1.1 Analyses of existing farming systems 3.1.2 Identification of resilient elements 3.1.3 Integration of resilient elements into CCTAMs	1 report

Objectives Hierarchy	Outputs	Indicative Activities	Targets End of Project
demonstrated and promoted **within suitable agro-ecological systems (equivalent to activity in ATLAS)**	**3.2** Supply chains for different climate-resilient crops, **livestock, etc., and farming inputs** analyzed and economic impacts/market barriers assessed	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	4 meetings X reports
	3.3 Climate resilient cropping, **livestock, fisheries and forestry practices** introduced in at least 1 flood-prone and at least 1 drought-prone **area**	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	1 plan X pilot villages X introductions per village X pilot schools
	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	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	DAFO structure Reports X plots X field days X weekly visits 1 database
	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.	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.	X jars X ponds X m of irrigation X m of protection X wells X sets

Objectives Hierarchy	Outputs	Indicative Activities	Targets End of Project
Outcome 4 Adaptation Learning **as a long-term process** **(equivalent to activity in ATLAS)**	**4.1** Project lessons captured in, and **periodically** disseminated through, the Adaptation Learning Mechanism (ALM)	4.1.1 Project Monitoring System established 4.1.2 Project website established 4.1.3 Quarterly contribution into ALM	1 M+E system 1 website
	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**	4.2.1 Annual CC Agriculture conference at NAFRI 4.2.2 Production of publication materials	4 conferences 6 brochures
	4.3 Project knowledge incorporated into national flood and drought prevention **and agricultural training** programmes in Lao PDR	4.3.1 Annual workshop on CC Agriculture mainstreaming with relevant instititutions and organizations at NAFRI	4 workshops

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 Theung[1] and Lao Soung[2]. 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 Provice), 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 Provice (Xieng Ngune district), and Xayyabouly province (Phieng, Paklai, and Botane distritcs) 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:

<u>Cropping systems:</u>

- 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.

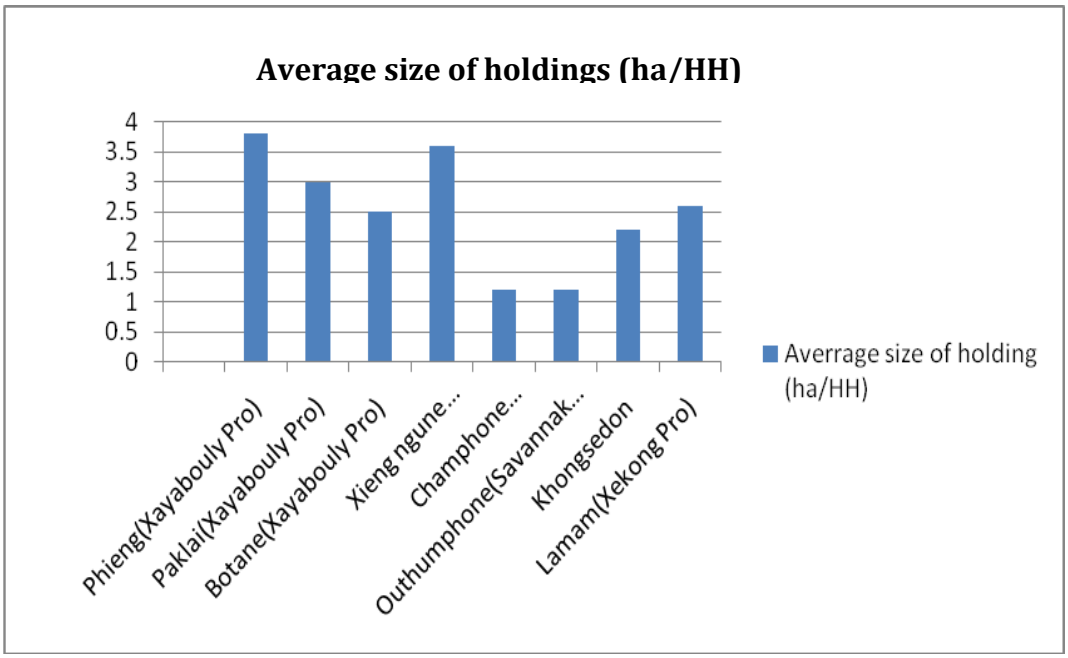
The holdings in Savannakhet province cover 243,459 ha, with an area of 19,669 ha in Champhone district and 13,805 ha in Outhumphone district.

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 liked 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).

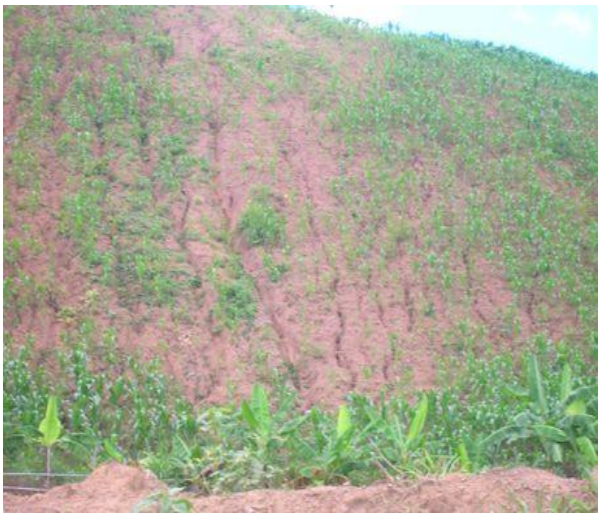
All 3 districts visited are directly linked to land degradation and erosion resulting from management of the agriculture systems, and also natural disasters (storms). Plants have been stressed since 4 years (low yield) – farmers used to get 6 T/ha, presently getting only 4 T/ha.

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 July2010)



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)**

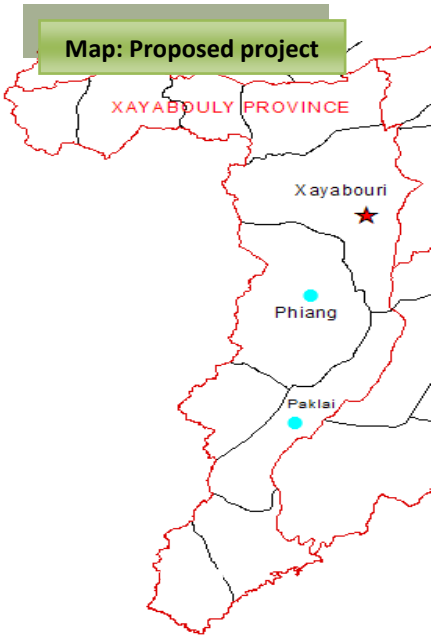
Natural indicators:
- Very low level of water in streams and canals
- Insufficient water resource that does not match the needs of the farmers
- Observed change in the pattern of the raining seasons

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:

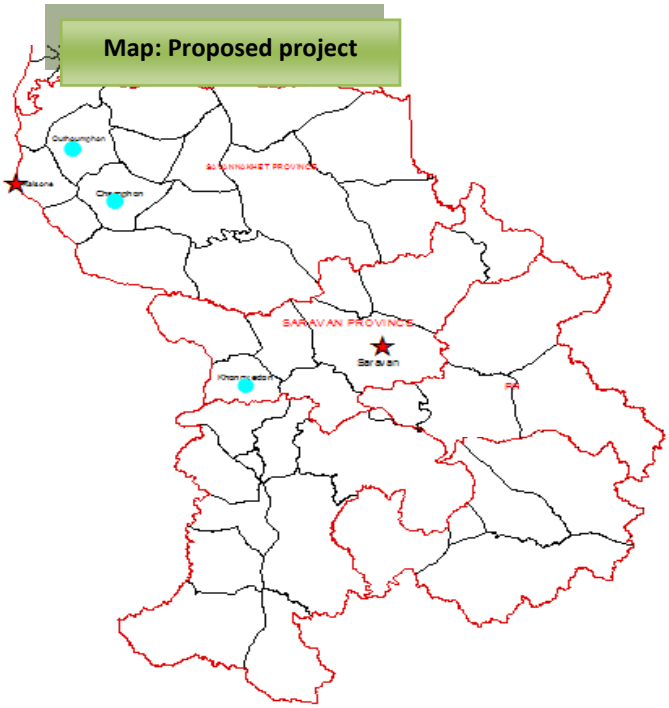
- Continuously decreasing agricultural yield
- Continuously shrinking access to water resources
- Continuing soil degradation
- Animal got disease after these natural disasters

Haman indicators:

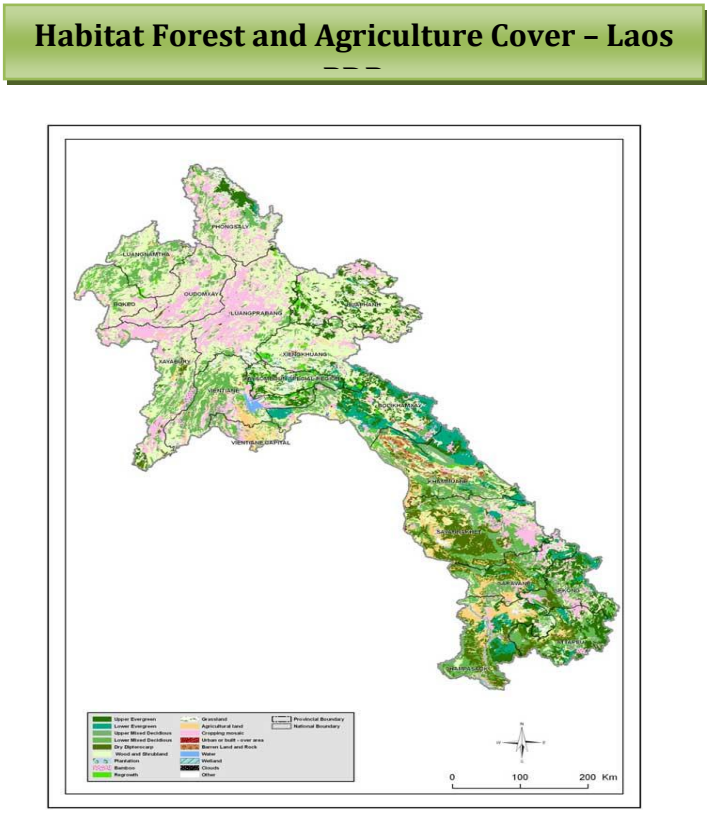
- Migration patterns of villagers to urban areas

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



Data collection on sites visited

Name of districts	Year with flood	Year with drought	Population		Household olds	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	

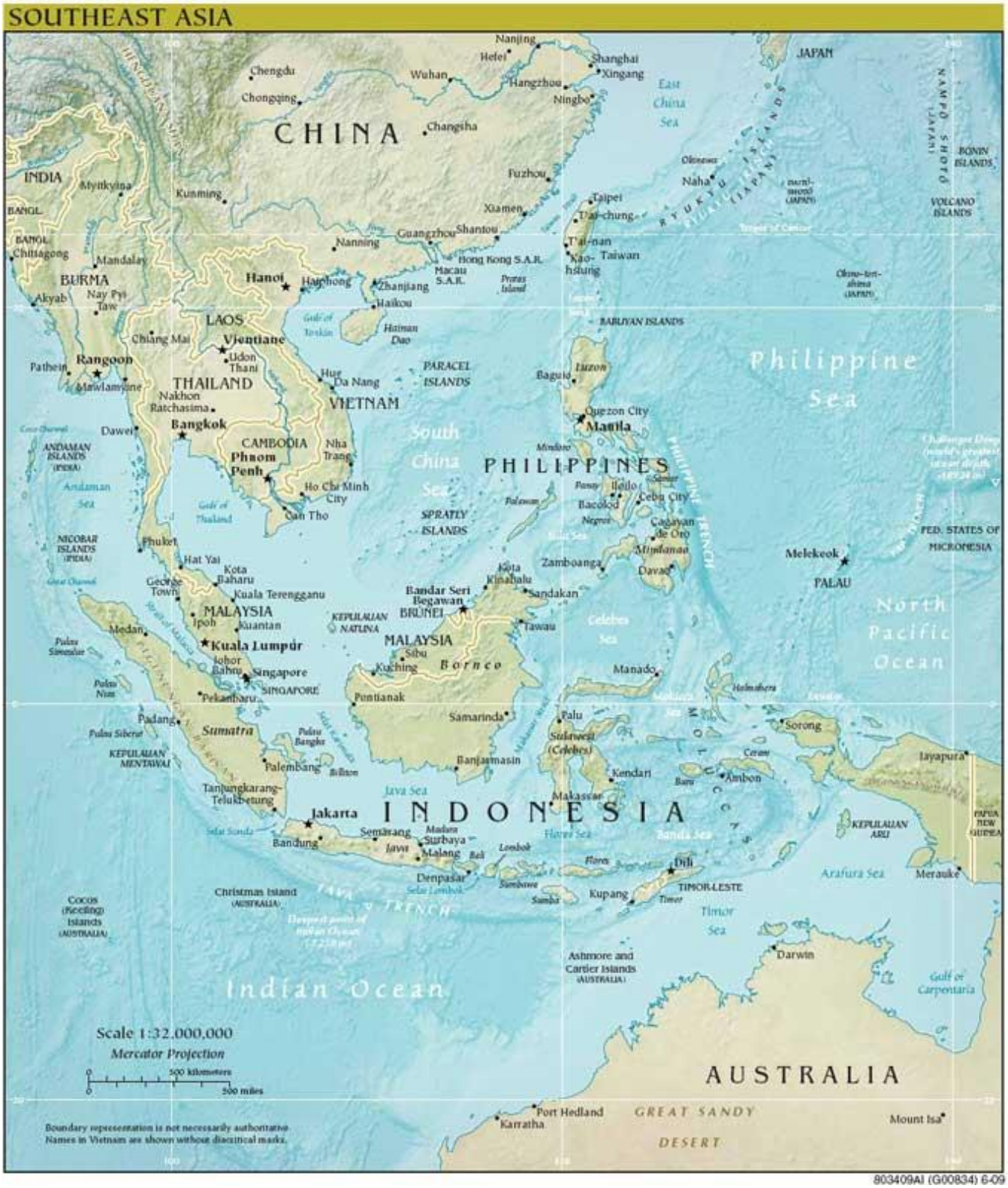
List of key resource persons consulted in three pre-selected provinces

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 Vongbounthanh	Head of Livestock division	PAFO
Ms. Theva Syladouangchai	Head of administrative unit	Agriculture Division, PAFO Tel: 020 44063098
Ms. Vanhnaseut Homehongsa	Techncal	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. Khamsouk 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

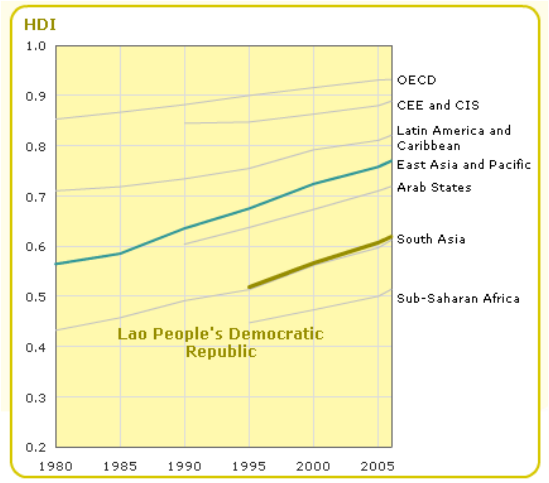
Lao PDR: Mekong Basin, Mountains, Rivers, Watersheds - Landlocked in South East Asia



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.

HDI Trends Lao PDR



Source: Indicator table G of the Human Development Report 2009

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: Sathalanalat 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 Bouphavanh (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 Bouphavanh 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 on 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 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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Others:

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