



Final consultation workshop of the Provincial REDD+ Action Plan (PRAP) Development Process

Drivers of deforestation and forest degradation in Houaphan province

Houaphan

November 24th, 2016



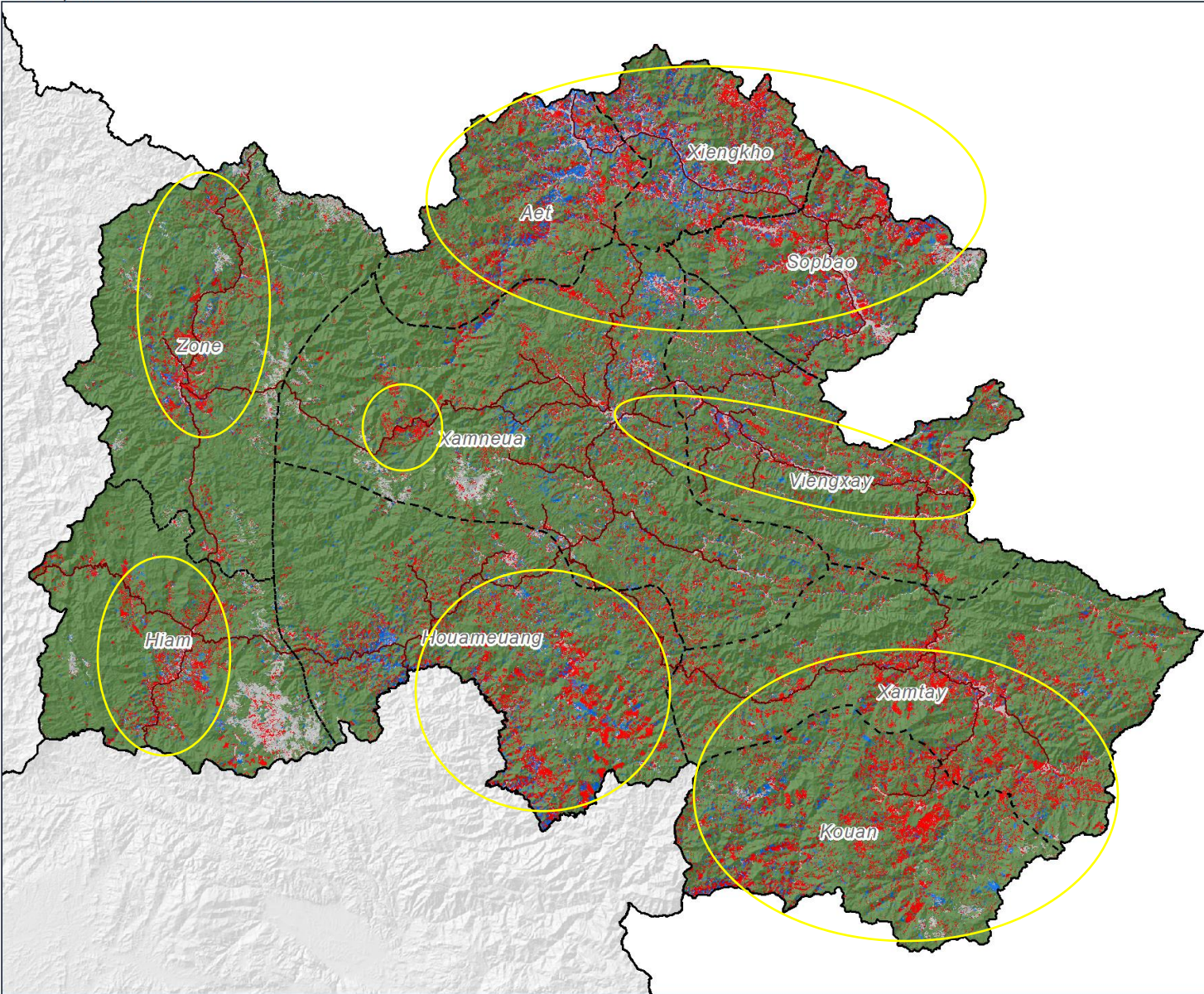


Presentation Outline

1. Overview of forest cover change in Houaphan province
2. Underlying causes of deforestation and forest degradation
3. Proximate drivers of deforestation and forest degradation
4. Barriers to REDD+
5. Conclusions for PAM development

Forest Cover Change 2000 - 2012

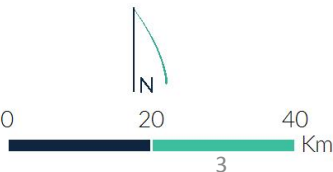
Houaphan Province - Lao PDR



Historical Forest Cover Change 2000-2012

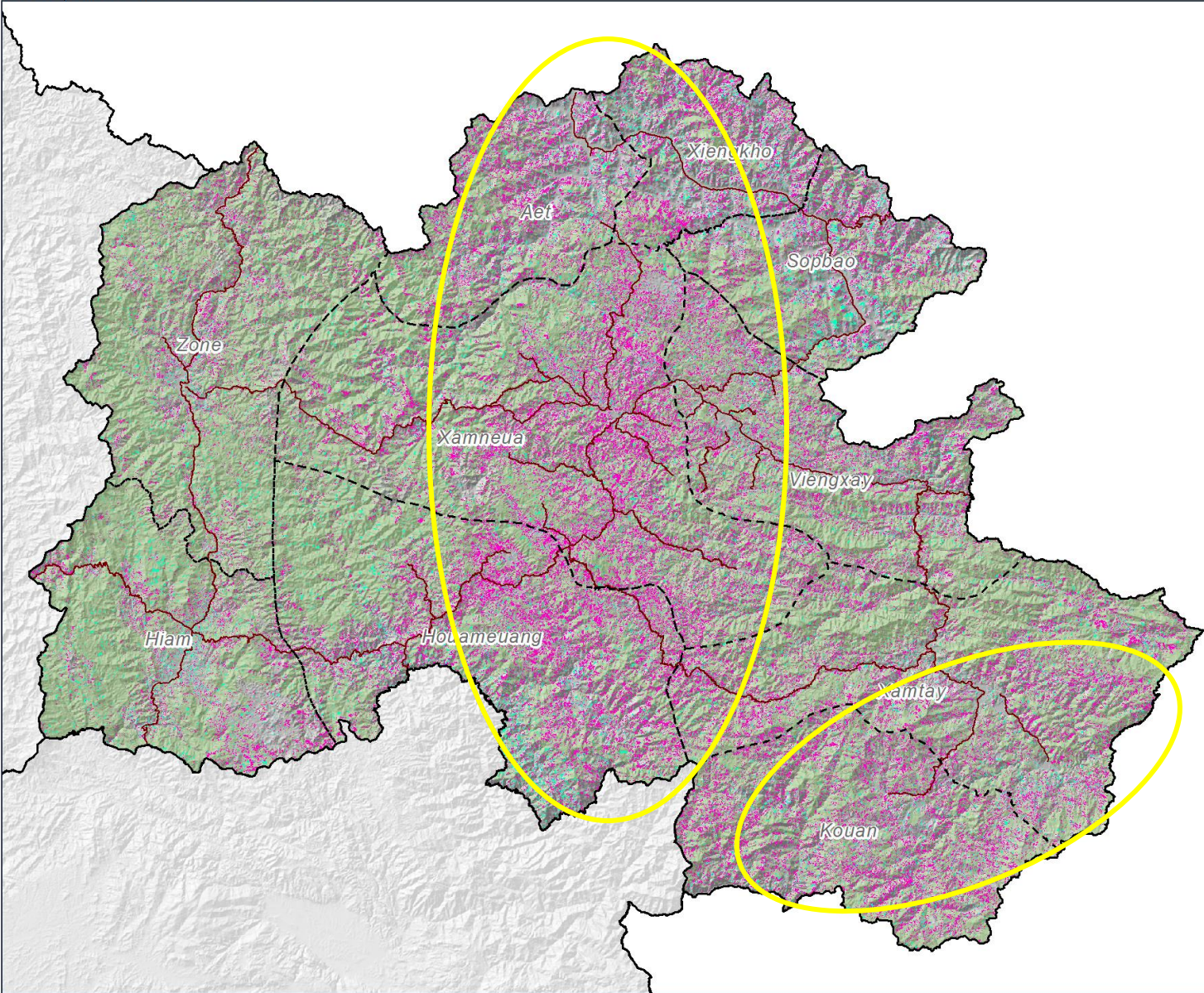
- Forest
- Cumulated Deforestation
- Cumulated Reforestation
- Non Forest
- Provincial Boundary
- District Boundary
- Main Road

Source: Landsat- USGS 2000 and 2004,
RapidEye 2010 and 2012, CLIPAD, 2015.
Created by FC, 17/10/2015.



Forest Cover Change 2000 - 2012

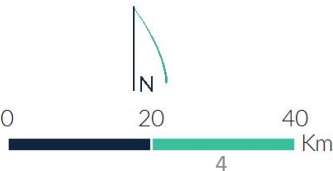
Houaphan Province - Lao PDR



Historical Forest Cover Change 2000-2012

- Forest
- Degradation
- Regeneration
- Non Forest
- Provincial Boundary
- District Boundary
- Main Road

Source: Landsat- USGS 2000 and 2004,
RapidEye 2010 and 2012, CLIPAD, 2015.
Created by FC, 16/10/2015.



Rates of Deforestation & Forest Degradation

From 2000-2012

Total net forest loss: 45,617 ha (3,801 ha/year)

Total net forest degraded: 119,664 ha (9,982 ha/year)

Land use matrix in Houaphan Province from 2000-2012					
Category	Land Cover	2000	2004	2010	2012
Forest	Mixed Deciduous Forest (MDF)	1,293,969	1,294,993	1,107,421	1,072,009
	Re-growing vegetation (RV)	254,721	252,578	445,396	431,064
Non-forest	Grassland	29,431	29,370	29,474	29,437
	Agricultural Land	144,325	145,510	140,183	189,928
	Bare Land	10,203	10,207	10,141	10,195
	Water	4,478	4,467	4,510	4,493

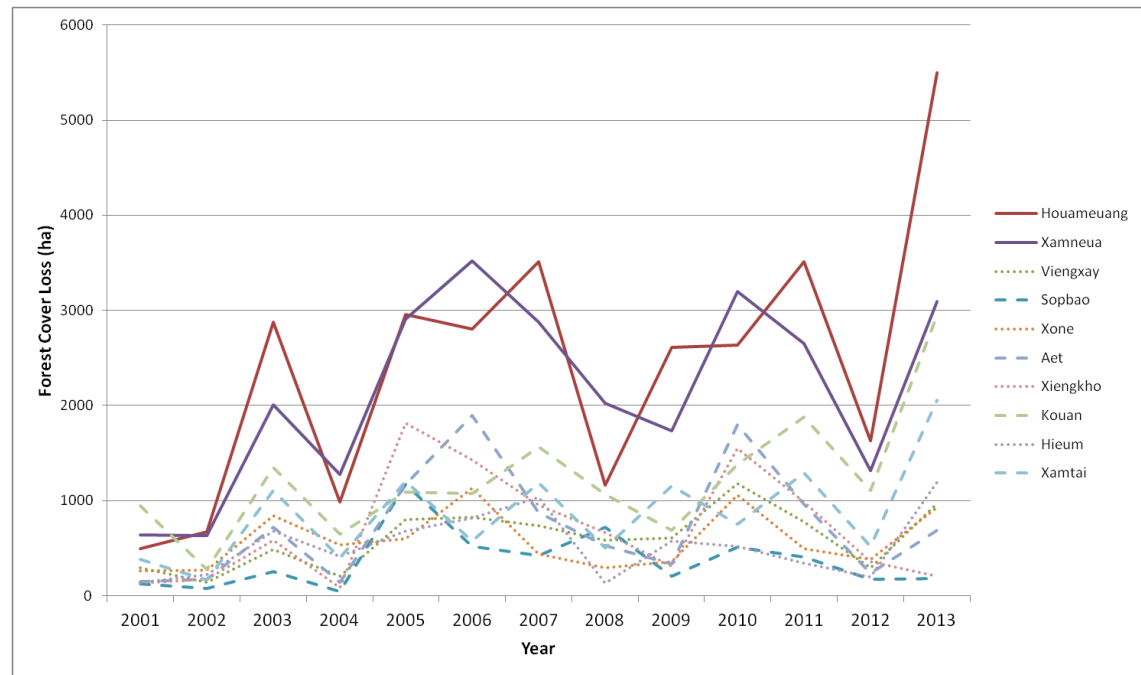
-45,617ha

+45,603ha

Source: Forest Carbon 2015

Overview Forest Cover Change

- Mixed deciduous forests declined in Houaphan by **>17%** from 2000-2012*
 - -221,960 ha
- Net baseline emissions from deforestation & forest degradation are **5,056,473 tCO₂e/year***
 - 49% deforestation
 - 51% degradation
- Net deforestation has occurred in each district, with particularly high losses in:
 - Houameuang,
 - Xamneua
 - Viengxay



Source: WCS & GIZ 2015

Prioritization of Proximate Drivers at District Level

District	Driver of deforestation and/or forest degradation	District	Driver of deforestation and/or forest degradation
Et	<ol style="list-style-type: none"> 1. Shifting cultivation (upland rice) 2. Cash crop cultivation 	Viengxai	<ol style="list-style-type: none"> 1. Shifting cultivation (upland rice) 2. Cash crop cultivation 3. Illegal logging and over-harvesting of wood products
Hiam	<ol style="list-style-type: none"> 1. Shifting cultivation (upland rice) 2. Cash crop cultivation 3. Infrastructure (roads) 	Xam Neua	<ol style="list-style-type: none"> 1. Illegal logging and over-harvesting of wood products and shifting cultivation (upland rice) 2. Cash crop production
Houameuang	<ol style="list-style-type: none"> 1. Shifting cultivation (upland rice) 2. Cash crop cultivation 3. Illegal logging and over-harvesting of wood products 	Xamtai	<ol style="list-style-type: none"> 1. Shifting cultivation (upland rice) 2. Illegal logging and over-harvesting of wood products 3. Cash crop cultivation
Kouan	<ol style="list-style-type: none"> 1. Shifting cultivation (upland rice) and cash crop cultivation 2. Infrastructure (roads) 	Xiengkhor	<ol style="list-style-type: none"> 1. Cash crop cultivation and illegal logging and over-harvesting of wood products 2. Shifting cultivation (upland rice)
Sopbao	<ol style="list-style-type: none"> 1. Cash crop cultivation 2. Shifting cultivation (upland rice) 3. Illegal logging and over-harvesting of wood products 	Xone	<ol style="list-style-type: none"> 1. Shifting cultivation 2. Cash crop cultivation

Underlying Causes of Deforestation & Forest Degradation

Key categories:

- **Demographic factors:** Population growth & migration
- **Economic factors:** Demand/market forces, lack of alternate livelihood activities, poverty
- **Agro-technological factors:** Low productivity, soil degradation, infrastructure development
- **Policy and institutional factors:** unclear land and resource rights, weak governance and law enforcement, inadequate land use planning
- **Cultural factors:** traditional practices / customs

Among district all underlying causes are relatively similar, thus no differentiation is made

Other Drivers of Deforestation & Forest Degradation

Driver	Underlying Cause
Collection of non-timber forest products (NTFPs)	<ul style="list-style-type: none">▪ Demand/market forces▪ Infrastructure (increased access to previously remote areas)▪ Lack of alternate livelihoods/ poverty▪ Inadequate land use planning▪ Weak forest governance, monitoring & law enforcement
Hydropower Projects	<ul style="list-style-type: none">▪ Government policies strongly promote hydropower development▪ Demand/market forces (exporting to neighboring countries)▪ Weak forest governance, monitoring & law enforcement▪ Infrastructure development
Mining	<ul style="list-style-type: none">▪ Government policies strongly promote mining exploration and investment in the sector▪ Demand/market forces (Chinese/ Vietnamese Companies)▪ Infrastructure development▪ Weak forest governance, monitoring & law enforcement

Are likely to have a heightened future impact depending on governmental interventions, control, development agenda, and investment

Underlying Causes of Deforestation & Forest Degradation

Underlying Causes -->		Demographic	Economic		Agro-Technological			Policy & Institutional				Cultural
Proximate Drivers	Agents	Population Growth & Migration	Demand / market forces	Lack of alternate livelihood activities/ poverty	Low productivity	Soil/ Land Degradation	Infrastructure development	Unclear land tenure & property rights	Poor governance & law enforcement	Inadequate land use planning	Government development policies	Traditional practices
Main Drivers:												
Cash Crops	Villagers	↑	↑	↓	→	↑	↑	↓	→	→	↑	→
Shifting Cultivation subsistence crops	Villagers	↑	↑	↓	→	↑	↑	↓	→	→	→	↓
Unsustainable harvest of wood products & NTFPs	Villagers & Private Sector	↑	↑	↓	→	↑	↑	↓	→	→	→	↓
Other Drivers												
Hydropower	Gov. Authorities; Private Sector	↑	↑	→	→	→	→	→	→	→	↑	→
Mining	Gov. Authorities, Private Sector	↑	↑	↓	→	↑	↑	↓	→	→	↑	→

Current underlying cause and impact of deforestation / degradation	
	High impact
	Medium impact
	Low impact

Likely future impact of underlying cause in deforestation & degradation	
↑	Increasing impact
→	Business as usual
↓	Decreasing impact

Key barriers for REDD+ in Houaphan

Barrier to REDD+	Description of Barrier
Inadequate land use planning & unclear land and resource tenure	<ul style="list-style-type: none">▪ Unclear demarcation / overlap of ownership, unclear monitoring & enforcement responsibilities▪ Unclear understanding of the scale of drivers → results based payments & planning for REDD+
Weak forest governance & land and resource tenure	<ul style="list-style-type: none">▪ SEDP prioritization of cash crops, hydropower and mining▪ Weak policy coherence & coordination▪ Weak cross-sectoral planning, cooperation & monitoring▪ Limited resources & capacities▪ Low transparency levels
Poverty and the lack of alternate livelihood activities	<ul style="list-style-type: none">▪ Strong dependence on agriculture and forest resources▪ Poorly coordinated industrial networks (e.g. contract farming) / high opportunity costs
Use of unsustainable management practices	<ul style="list-style-type: none">▪ Low yields / productivity of crops▪ Limited uptake of soil conservation practices▪ Current practices do not safeguard forest landscapes

Conclusions for Policies, Actions & Measures development

- **Key proximate drivers** are shifting cultivation, cash crop farming and illegal / unsustainable logging of timber
- **The key underlying causes** for deforestation / forest degradation are the complex interplay between population growth, low productivity of agricultural land, lack of alternative livelihoods, poverty, unclear land and resource tenure, weak governance, law enforcement and inadequate land use planning
- **The policies & measures must address the key barriers of REDD+:**
 - Improved land use planning and address unclear land and resource tenure,
 - Improve weak forest governance and law enforcement
 - Reduce poverty and promote better livelihood activities
 - Increase the adoption of more sustainable agriculture and forestry practices



Draft Policies, Actions & Measures (PAMs) for the Provincial REDD+ Action Plan (PRAP) Development Process

Houaphan Province
November 24th, 2016





Presentation Outline

1. Key barriers of REDD+ in Houaphan
2. Alignment with provincial SEDP
3. Overview of proposed Policies, Actions & Measures (PAMs)
4. Draft budget and scale
5. Financing of the PRAP

Key barriers for REDD+ in Houaphan

Barrier to REDD+	Description of Barrier
Inadequate land use planning & unclear land tenure	<ul style="list-style-type: none">▪ Unclear demarcation / overlap of ownership, unclear monitoring & enforcement responsibilities▪ Unclear understanding of the scale of drivers → results based payments & planning for REDD+
Weak forest governance & land tenure	<ul style="list-style-type: none">▪ SEDP prioritization of cash crops, hydropower and mining▪ Weak policy coherence & coordination▪ Weak cross-sectoral planning, cooperation & monitoring▪ Limited resources & capacities▪ Corruption
Poverty and the lack of alternate livelihood activities	<ul style="list-style-type: none">▪ Strong dependence on agriculture and forest resources▪ Poorly coordinated industrial networks (e.g. contract farming) / high opportunity costs
Use of unsustainable management practices	<ul style="list-style-type: none">▪ Low yields / productivity of crops▪ Limited uptake of soil conservation practices▪ Current practices do not safeguard forest landscapes



Alignment with Provincial SEDP

- PRAP is aligned with the SEDP objective to support the *“transition to a green-economy that is based on the sustainable use of natural resources in order to sustain the populations’ livelihoods, health & prosperity”*.
- **The PRAP aims to continue to strengthen economic growth & development in the province while also safeguarding forest resources & reducing emissions**

Alignment with Provincial SEDP

	Policy objectives
Provincial SEDP (2016-2020)	Forest sector <ul style="list-style-type: none">▪ Increase forest areas to 69% by 2020 through supporting the regeneration, conservation and preservation of forests and biodiversity▪ Regeneration of conservation forests to 48,706 ha and regeneration of protection forests to cover a total of 256,425 ha
	Agricultural sector <ul style="list-style-type: none">▪ Improve yields & expand areas for planting maize, beans, fruit trees and biofuel crops/trees

Selection of Policies, Actions & Measures (PAMs)

PRAPs need to **prioritize the activities that will have a major impact on emission reductions** addressing the key barriers for REDD+ and the drivers!

We propose that the main focus of the PRAP is a combination of **cross-cutting enabling environment PAM and investments in forestry and agriculture sectors** to address key barriers and drivers in the **agriculture and forestry sectors**

→ Other economic sectors and drivers are targeted within the cross-cutting enabling environment PAMs

Proposed prioritized PAMs from district consultations

District	Proposed PAMs	District	Proposed PAMs
Et	<ol style="list-style-type: none"> 1. Improved upland rice cultivation 2. Agricultural alternatives and improved management of cash crops 3. Improved law enforcement 	Viengxai	<ol style="list-style-type: none"> 1. Diversification in agricultural activities & improved management (cash crops) 2. Improved forest governance & law enforcement
Hiam	<ol style="list-style-type: none"> 1. Improved upland rice cultivation 2. Agricultural alternatives and improved management of cash crops 3. Sustainable livestock production 	Xam Neua	<ol style="list-style-type: none"> 1. Improved forest governance & law enforcement 2. Sustainable livestock production
Houameuang	<ol style="list-style-type: none"> 1. Improved upland rice cultivation 2. Agricultural alternatives and improved management of cash crops 3. Improved land use planning 	Xamtai	<ol style="list-style-type: none"> 1. Diversification in agricultural activities & improved management (cashcrops) 2. Improved forest governance & law enforcement
Kouan	<ol style="list-style-type: none"> 1. Agricultural intensification & improved management practices (rice) 2. Improved land use planning 	Xiengkhor	<ol style="list-style-type: none"> 1. Improved forest governance & law enforcement 2. Agricultural intensification & improved management (rice)
Sopbao	<ol style="list-style-type: none"> 1. Agricultural intensification & improved management practices (rice) 2. Improved forest governance & law enforcement 	Xone	<ol style="list-style-type: none"> 1. Improved land use planning 2. Diversification in agricultural activities & improved management (cash crops) 3. Improved livestock production

Overview of Policies, Actions & Measures (PAMs)

Cross-cutting PAMs

1. Improved forest governance & law enforcement

2. Improved land use planning
Integrated Spatial Planning & Participatory Land Use Planning

3. Sustainable forest landscape management

4. REDD+ alternative business model development & value chain integration

5. Monitoring & evaluation (M&E) for the PRAP

Agriculture Sector PAMs

1. Investments in agricultural intensification & improved management practices (Rice)

2. Supporting diversification in agricultural activities & improved management practices (Cash crops)

3. Sustainable livestock production & sustainable fodder production

Forest Sector PAMs

1. Forest landscape restoration (FLR)

2. Sustainable natural forest management

Barriers for REDD+ and Proposed Interventions

Barrier to REDD+	Description of Barrier
Weak forest governance & law enforcement	<ul style="list-style-type: none">▪ SEDP prioritization of cash crop expansion, hydropower & mining▪ Weak policy coherence and weak cross-sectoral planning & cooperation▪ Limited resources & capacities▪ Weak M&E, law enforcement & forest control

Cross-cutting enabling environment PAMs

1. Improved forest governance & law enforcement

- **Detailed assessment** of current policies, laws, capacities & barriers
- Provision of capacity development & technical support on **mainstreaming climate change & REDD+** into sector strategies & SEDPs
- Development of **improved monitoring system** for monitoring, law enforcement & forest control
- Procurement of **tools/equipment** needed to enhance forest control
- **Awareness raising & training** of government staff on forest governance, control, monitoring & enforcement

Barriers for REDD+ and Proposed Interventions

Barrier to REDD+	Description of Barrier
Inadequate land use planning & unclear land and resource tenure	<ul style="list-style-type: none">■ Unclear demarcation/ overlap of ownership,■ Unclear monitoring & enforcement responsibilities■ Insufficient resources & capacities■ Unclear understanding of the scale of drivers, lack of integrated and participatory land use planning → results based payments & planning for REDD

Cross-cutting enabling environment PAMs

2. Improved land use planning

Integrated Spatial Planning & Participatory Land Use Planning

- Technical support on integrating sustainable forest landscape management into SEDPs
- Trainings on the benefits of improved & integrated land use planning
- Provision of equipment/tools and training for land use planning
- Capacity development on integrated spatial planning (ISP), participatory LUP (PLUP), land allocation to households
- Implementation of land allocation processes, ISP & PLUP
- Mainstreaming integrated spatial planning, participatory land use planning, land allocation processes, & Village Forest Management into SEDPs & planning
- Alignment of planning processes with M&E systems

Barriers for REDD+ and Proposed Interventions

Barrier to REDD+	Description of Barrier
Use of unsustainable management practices	<ul style="list-style-type: none">▪ Low yields/ productivity of crops▪ Limited uptake of soil conservation practices▪ Current practices do not safeguard forest landscapes
Poverty and the lack of alternate livelihood activities	<ul style="list-style-type: none">▪ Strong dependence on agriculture and forest resources▪ Poorly coordinated industrial networks (e.g. contract farming)/ high opportunity costs

Cross-cutting enabling environment PAMs

3. Sustainable forest landscape management

- Development & operation of Farmer Field Schools
- Capacity development for extension staff on improved agricultural practices / diversification
- Capacity development for government staff on village forest management (VFM)
- Implementation of VFM
- Establishment of natural forest management pilot & demonstration sites
- Training on forest fire prevention & improved land use practices

Cross-cutting enabling environment PAMs

4. REDD+ alternative business model development & value chain integration

- Market assessment and value chain of agriculture & forestry alternatives
- Support forest dependent villages in improved permanent market access & information
- Technical support to integrate business model development into the SEDP & planning processes

5. Monitoring & evaluation (M&E) for the PRAP

- PRAP management
- Monitoring, evaluating and reporting the progress of PRAP implementation
- Consultations on PRAP at the provincial, district and village level



Discussion and feedback

- Are there any gaps or missing components of the proposed cross-cutting PAMs?
- Which of the proposed cross-cutting PAMs will best address drivers of deforestation?

Overview of Policies, Actions & Measures (PAMs)

Cross-cutting PAMs

1. Improved forest governance & law enforcement

2. Improved land use planning
Integrated Spatial Planning & Participatory Land Use Planning

3. Sustainable forest landscape management

4. REDD+ alternative business model development & value chain integration

5. Monitoring & evaluation (M&E) for the PRAP

Agriculture Sector PAMs

1. Investments in agricultural intensification & improved management practices (Rice)

2. Supporting diversification in agricultural activities & improved management practices (Cash crops)

3. Sustainable livestock production & sustainable fodder production

Forest Sector PAMs

1. Forest landscape restoration (FLR)

2. Sustainable natural forest management

Agricultural Sector PAMs: Rice

1a. Improved production of paddy rice

- Investments into yield improvement & climate-smart agricultural practices
- Investment into alternative crop production in combination with rice
- Investments in irrigation & terracing to improve available area & rice production
- Capacity development for governmental extension staff
- Extension services on improved agricultural practices (including soil conservation measures, intercropping)

1b. Improved upland rice cultivation

- Investment into climate-smart perennial cash crop production in fallow periods
- Investment into alternative crop production in combination with rice
- Capacity development for governmental extension staff
- Extension services on improved agricultural practices (incl. soil conservation measures, intercropping)

Agricultural Sector PAMs: Cash Crops

2. Supporting diversification in agricultural activities & improved management practices (maize & cash crops)

- Investments into climate-smart crop diversification and agricultural practices on maize cultivated areas (intercropping, peanut, vegetables etc.)
- Awareness raising on alternative agriculture crops & livelihoods
- Extension services on improved agricultural practices for cash crops & diverse agricultural systems, marketing support

Agricultural Sector PAMs:

Alternate Livelihood Activities (Livestock & Fodder)

3. Sustainable livestock production & sustainable fodder production

- Investment into climate-smart fodder production (cassava, beans, etc.)
- Investment into improved livestock breeds
- Investment into livestock health, facilities and feed supplement for livestock
- Extension services on improved climate-smart livestock practices (livestock & fodder)



Discussion and feedback

- Are there any gaps or missing components of the proposed agricultural PAMs?
- Which of the proposed agricultural PAMs will best address drivers of deforestation?

Overview of Policies, Actions & Measures (PAMs)

Cross-cutting PAMs

1. Improved forest governance & law enforcement

2. Improved land use planning
Integrated Spatial Planning & Participatory Land Use Planning

3. Sustainable forest landscape management

4. REDD+ alternative business model development & value chain integration

5. Monitoring & evaluation (M&E) for the PRAP

Agriculture Sector PAMs

1. Investments in agricultural intensification & improved management practices (Rice)

2. Supporting diversification in agricultural activities & improved management practices (Cash crops)

3. Sustainable livestock production & sustainable fodder production

Forest Sector PAMs

1. Forest landscape restoration (FLR)


2. Sustainable natural forest management



Forest Sector PAMs: Forest Landscape Restoration (FLR)

1. Forest landscape restoration (FLR)

- Investment plantations combining native tree species and commercial species (for timber or biofuels) on degraded lands
- Investment into agro-forestry systems (tea, coffee, ginger, cardamon, etc.)
- Provision of extension services & trainings for FLR & sustainable land use management in the forestry sector



Forest Sector PAMs: Sustainable natural forest management


2. Sustainable natural forest management

- Investment into management planning
- Investments into sustainable collection of NTFP and timber extraction
- Technical support and capacity development for local communities in practicing sustainable natural forest management
- Extension services & trainings on monitoring sustainable natural forest management



Discussion and feedback

- Are there any gaps or missing components of the proposed forest sector PAMs?
- Which of the proposed forest sector PAMs will best address drivers of deforestation?



Budget key assumptions

As a basis for the budget calculation for Houaphan:

- Assume that funding of USD 120 – 140 million (all 6 provinces) can be mobilized
- Budget calculation assumes a maximum budget of USD 20 million per province over 8 years
- Budget is based on existing experiences from similar forestry and agricultural projects in Laos
- Investments into agricultural and forestry PAMs are based on cost and benefit analysis

DRAFT PRAP Budget

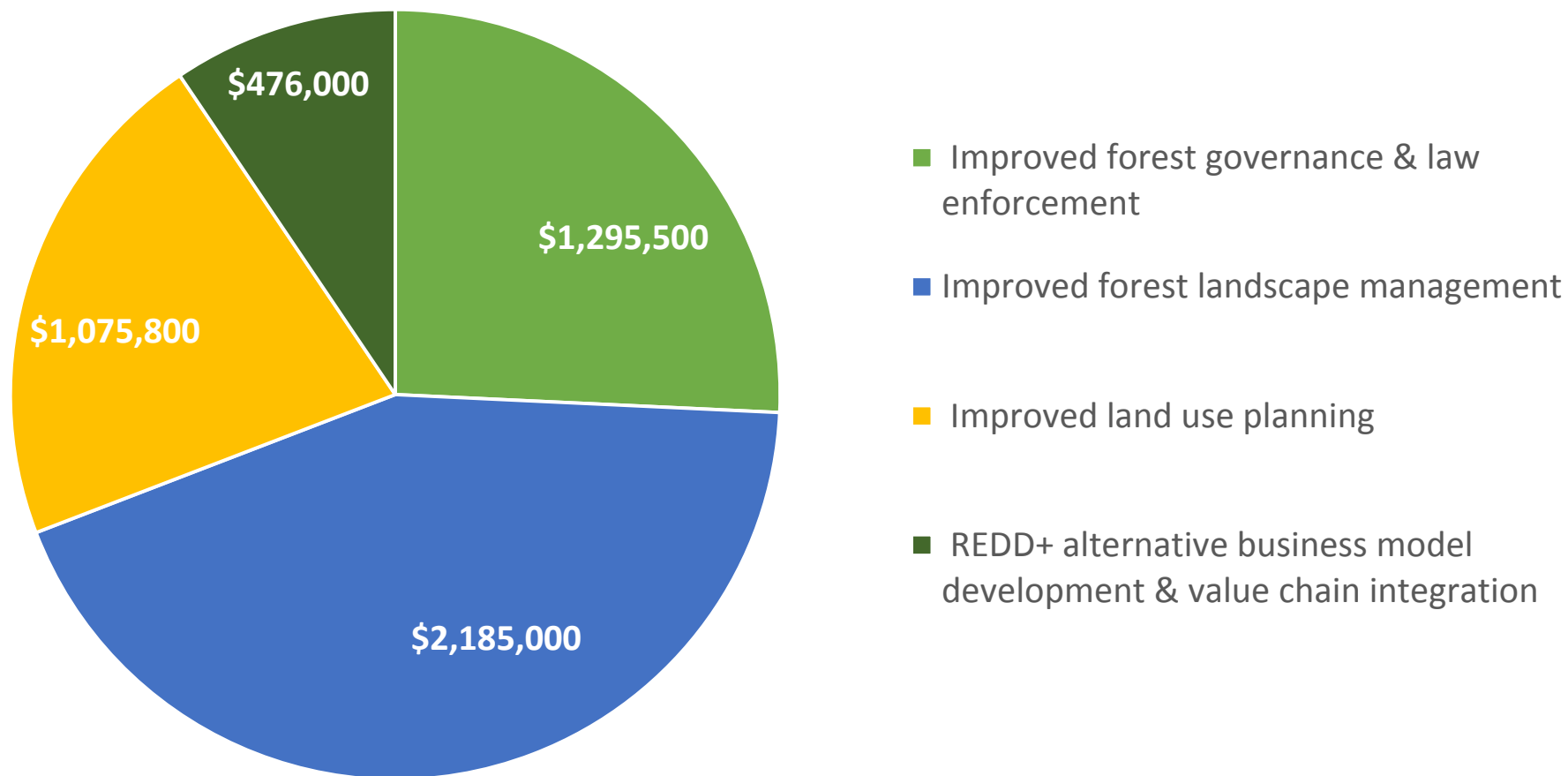
Proposed policies and measures	Budget (USD million)	Budget (LAK million)
1. Cross-cutting investments	5.09	40,762
2. Forest sector investments	4.69	37,480
3. Agriculture sector investments	8.56	68,515
4. Project management & consultation / information sharing	0.88	7,032
Total (over 8 years)	19.22	153,789

Exchange rate: 1 USD = 8,000 LAK

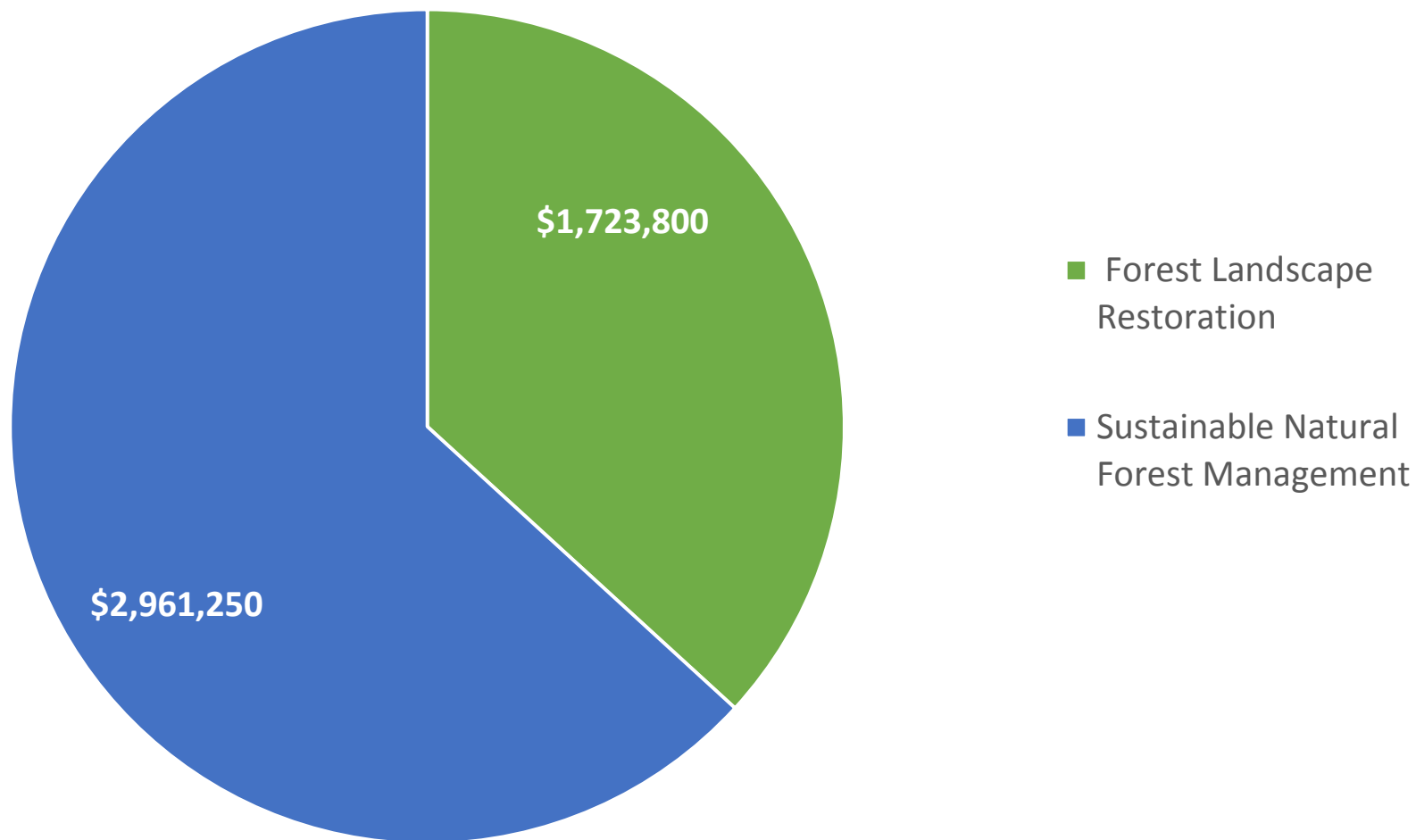
Suggested Scale of PAMs

Policies, Actions & Measures	Estimated intervention area over 8 years (ha)
Forest area	23,000 ha
Forest Landscape Restoration	9,000 ha
Sustainable Natural Forest Management	14,000 ha
Agriculture area	18,511 ha
Investments in agricultural intensification & improved management practices	7,571 ha
Supporting diversification in agricultural activities & improved management practices	9,450 ha
Sustainable livestock production & sustainable fodder production	1,490 ha

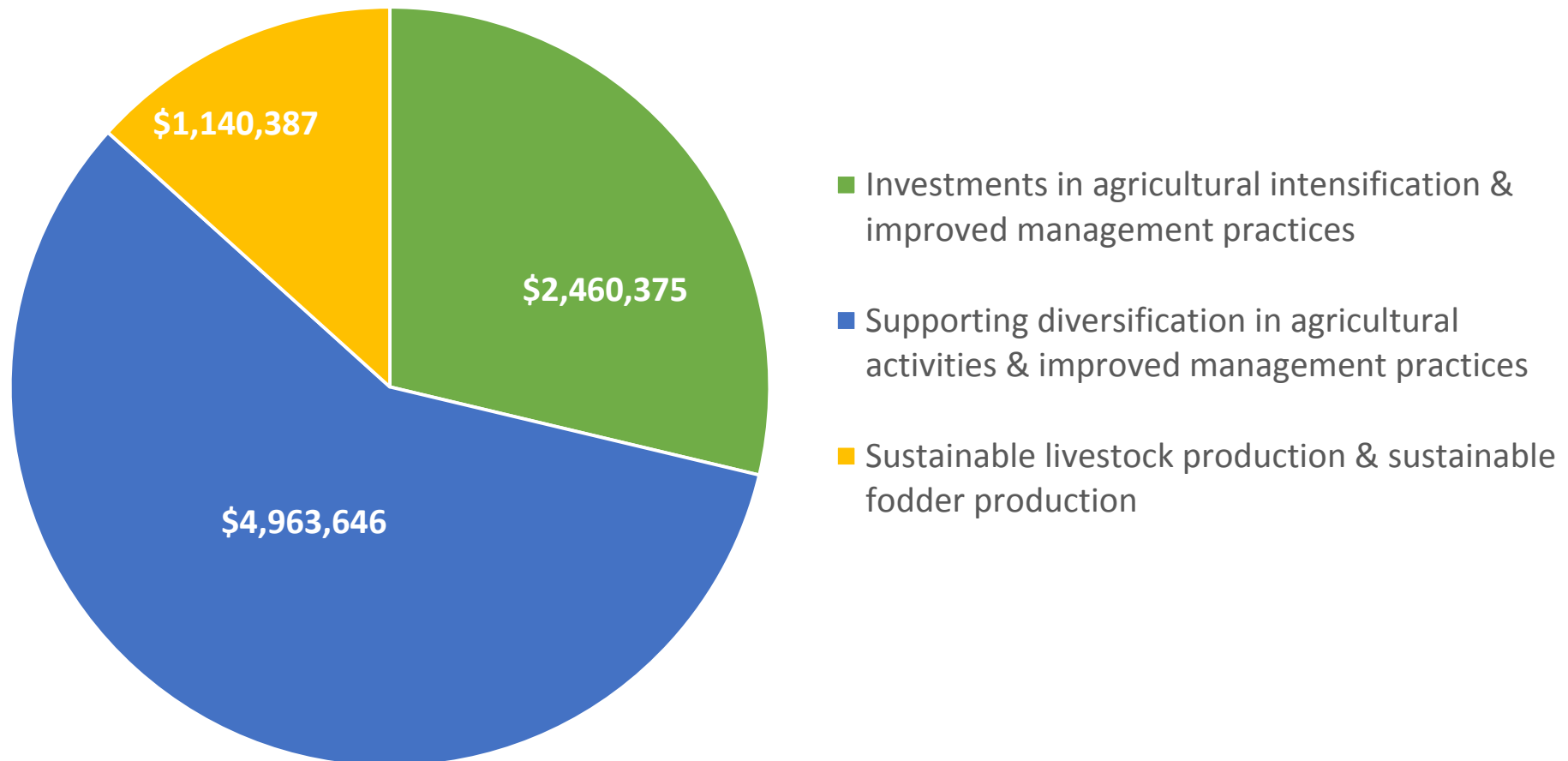
Cross-cutting PAMs (USD)



Forest sector PAMs (USD)



Agriculture sector PAMs (USD)



Financing the PRAP

How to finance the PRAP?

- **National & Provincial budgets**

→ need to demonstrate ownership & commitment to REDD+

Potential international funding sources:

- International / Bilateral development cooperation (e.g. GIZ, KfW, GEF, WB, etc.)
- International climate finance (e.g. Green Climate Fund)
- Lao PDR Emission Reductions Program (ER-P) (FCPF Carbon Fund, only performance based payments)

ຂອບໃຈ! - Thank You!

