

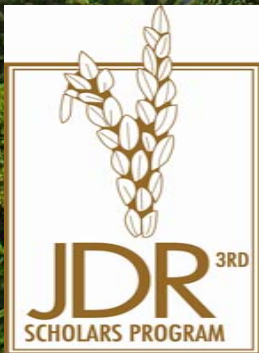
# Why Payment for Environmental Services for Watershed Management Makes Sense in Thailand

By  
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from

**“Developing Payment Mechanisms for Watershed Protection Services  
and Improved Livelihoods of Rural Poor:  
A Pilot Study in Critical Upland Watersheds of Thailand and Vietnam”**

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**Pullman Bangkok King Power Hotel**



# Background

A project on “**Developing Payment Mechanisms for Watershed Protection Services and Improved Livelihoods of Rural Poor: A Pilot Study in Critical Upland Watersheds of Thailand and Vietnam**” funded by the John D. Rockefeller 3<sup>rd</sup> Scholars Program of Winrock International (2006-2008)

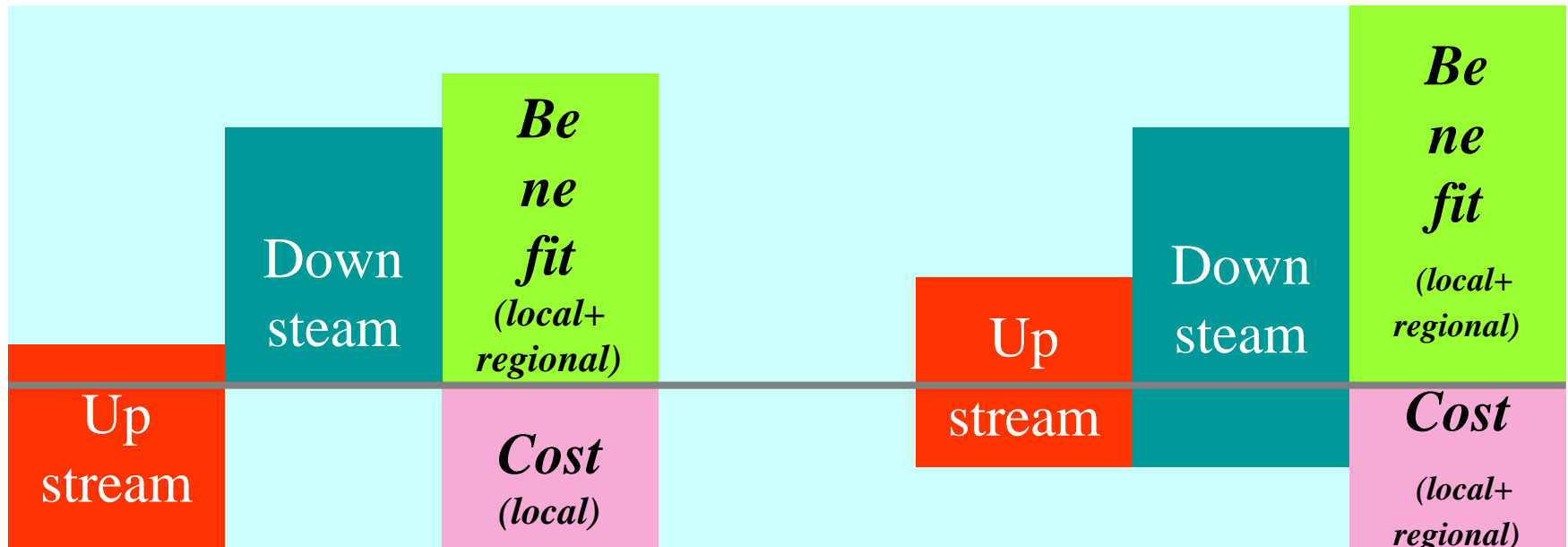
## Objectives

- (1) Identify the service providers, their conservation practices, their motivation and constraint to maintaining watershed, and their willingness to participate in PES including appropriate payment options
- (2) Identify the direct beneficiaries, their perception on the ecosystem services, and their willingness to pay for PES
- (3) Determine the viability of PES, considering both existing watershed services as well as the potential for enabling policy reform at local and national levels in supports of PES

## Main focus:

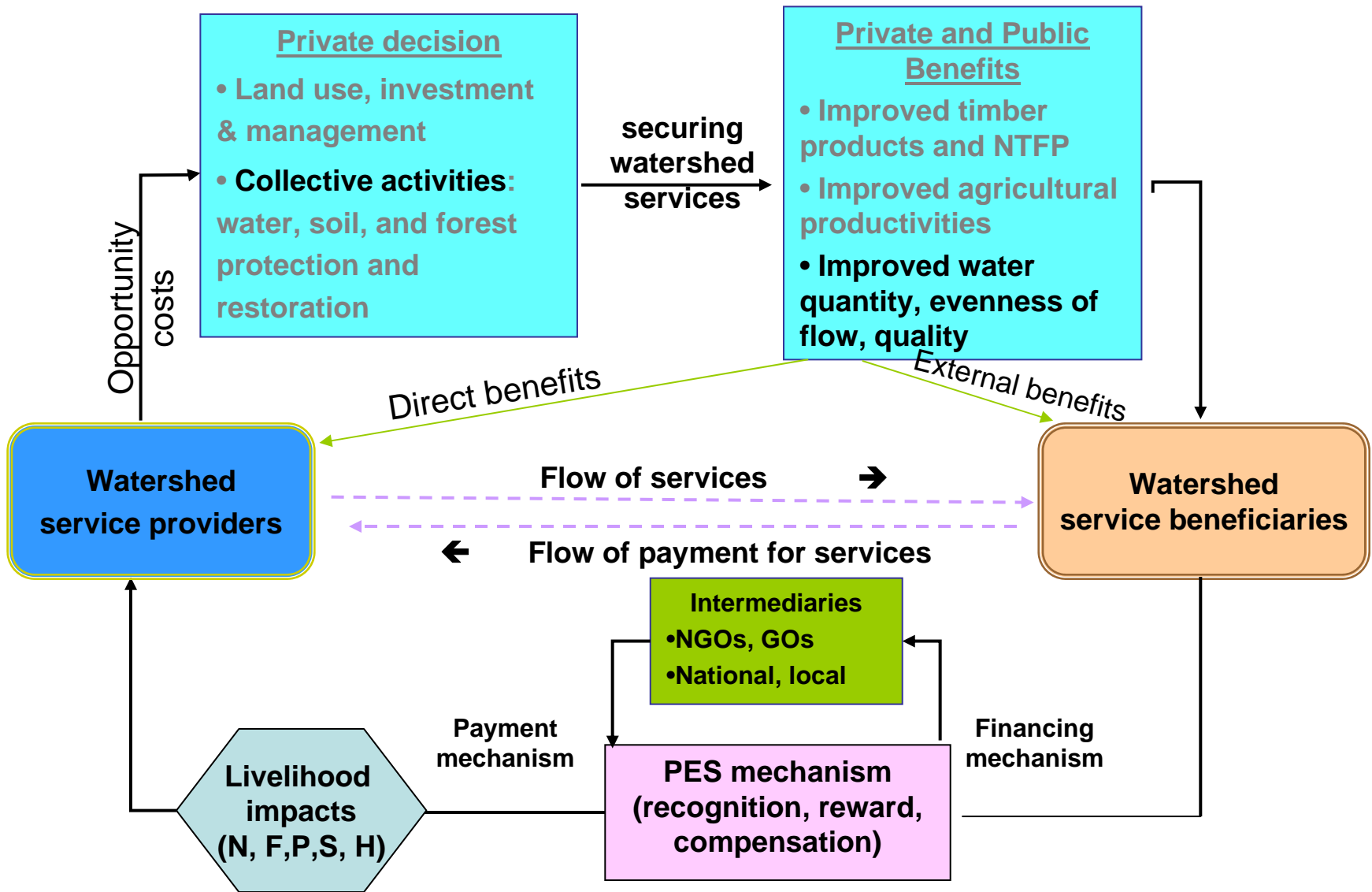
- watershed services => hydrological services (quantity, quality, and timing)
- conservation activities conducted as a collective group

# Benefit and Cost Distribution *when upstream villagers secure and enhance the provision of ES*



**Before PES**

**After PES**



Conceptual framework

## Three elements

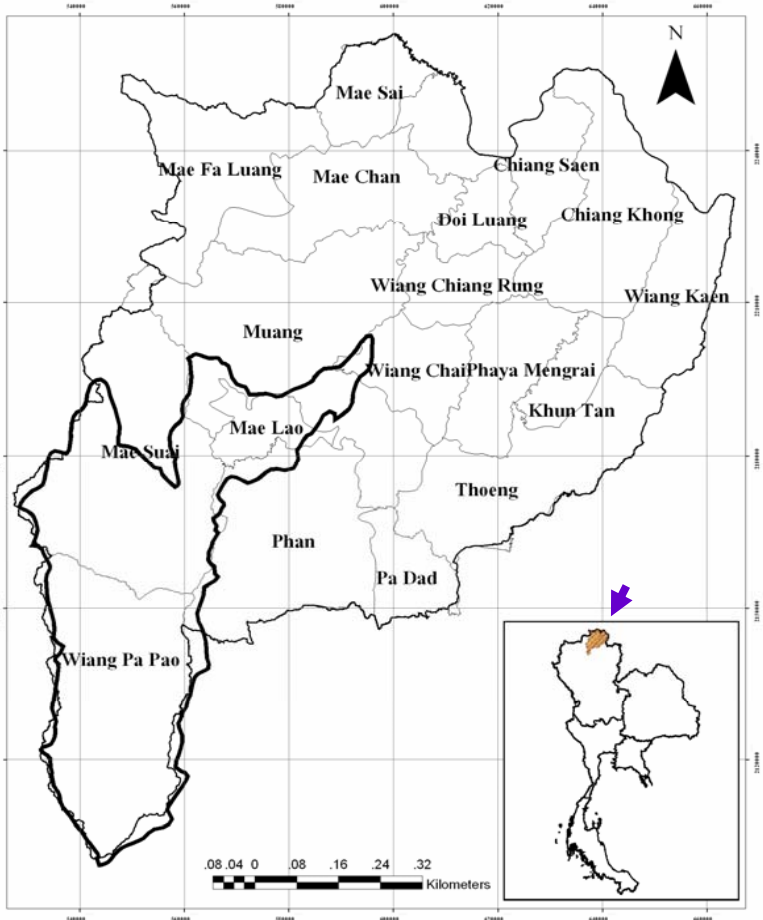
**Supply:** HHs living upper part of Mae Lao watershed, Chiang Rai province, northern Thailand conducting protection and restoration activities to secure and enhance ES of Mae Lao watershed, northern Thailand

**Demand:** HHs living downstream, residents engaged in irrigation activities and domestic water users

**Policy:** national and local levels

# Study Area

Myanmar



*Chiang Rai province,  
Northern Thailand*

Mae Lao  
Sub-  
Watershed



# Mae Lao watershed

- Approximately 318,000 ha with 18% of agricultural area
- Located in the Mae Lao sub-river basin of Mae Kok River basin
- Covers 4 districts namely: **Wiang Pa Pao**, Mae Srouy, Mae Lao, and Muang districts, with 22 sub-districts

# Methods & findings

**Supply:** service providers, *their conservation activities and potential for PES*

- site selection
- well-being ranking
- household survey

- types of conservation activities and contribution
- motivations/perceived benefits for conducting conservation activities
- existing conservation cost and supports received
- preferable types of supports (PES types)

**Demand:** downstream beneficiaries, *their willingness to engage and support PES*

- focus group discussion
- household survey

- perceived benefits from Mae Lao watershed
- beneficiaries' perspectives of the establishing a PES scheme
- potential for supporting PES scheme

**Policy review:** *potential for a PES program in Thailand*

- interview decision makers at central and local levels
- literature review

- enabling policy environment at local and national levels

# Providers of services:

Households living in the upper part of ML watershed in Wiang Papao district, where protection and conservation activities are thought to secure and enhance ecosystem services



**Participatory well-being ranking &**

**Sampling Design...**

# Providers of services:



**Interview  
of  
127  
samples**



# Supply side

- >50% of hhs practice conservation/restoration activities
  - Mostly forest resource conservation, less of soil conservation
  - Poorest hhs often conducts labor-based activities
- Most mentioned the need for training or capacity building on forest conservation techniques.
- Internal incentives of all well-being groups are beyond the use benefits
  - Water supply sources => *indirect use*
  - Biodiversity conservation for its existence and future generation => *non-use*
- Opportunity costs higher for better-off groups (\$25-37/hh)
- Financing mainly self-supports for conservation, 15-20% on their cost equivalent
- Preferable types of PES: forest conservation fund, capacity building on watershed conservation technique, wage compensation
  - Less poor households additionally called for training and capacity building on income generating activities relating to improved ecosystem services
- Poorer households voted for direct wage or cash compensations.

# Beneficiaries:

Downstream residents engaged in irrigation activities and domestic water users in Wiang Papao District.



*Interview of  
key  
informants  
& focus  
group  
discussion*



# Enumerator training....



Beneficiaries	Total sample
Agricultural water users	245
Domestic water users	254
Total	499

Examples of CV scenario tools in eliciting respondents' awareness of and willingness to pay for Mae Lao watershed protection services



# Demonstrating roles of watershed in sustainable water supply

With fertile forest

- All year round → regulate water supply
- Rainy season → reduce risks of flood and soil erosion
- Dry season → reduce risk of drought



Example: [DSCN3638.MOV](#)

# Proposed project in CVM scenario

## “Watershed Protection and Restoration Fund”

- Management body of this trust fund and conditions for using it.
- With the amount the households are willing to pay, this may reduce their income available to them.



# Beneficiary survey



# Purposed types of PES

Answer	Total answer	Percentage
Not necessary for PES	16	3.6
Don't know/ not sure	2	0.4
<b>Necessary for PES</b>	<b>427</b>	<b>96.0</b>
- to provide them knowledge and training for livelihood improvement	170	38.2
- to provide them funding or in-kind for labour compensation	150	33.7
- to recognize them, ie., certificate, reward	77	17.3
- to provide them seedlings for reforestation	8	1.8
- to participate with them in conservation activities	7	1.6
- to support them, ie, infrastructure development, family welfare.	3	0.7
- to provide them funding for the conservation group	2	0.4
- Other, ie, awareness raising for young generation, more restrict enforcement.	10	2.2
<b>Note: Respondents can answer more than one choice.</b>	<b>445</b>	<b>100.0</b>

Households' willingness to pay for securing Mae Lao watershed services is 137 B/year or 10-11 B/month (US\$4/year)

*(\$1 = 35 Thai Baht)*

*Potential fund available for watershed protection*

<b>%HH agree with the program</b>	<b>No. of HHs</b>	<b>Potential fund (Baht/year)</b>	<i><b>\$/year</b></i>
<b>0.95</b>	<b>17,868</b>	<b>2,454,371</b>	<i><b>70,125</b></i>
<i>if 0.50</i>	<i>9,404</i>	<i>1,291,774</i>	<i>36,908</i>
<i>if 0.20</i>	<i>3,762</i>	<i>516,710</i>	<i>14,763</i>

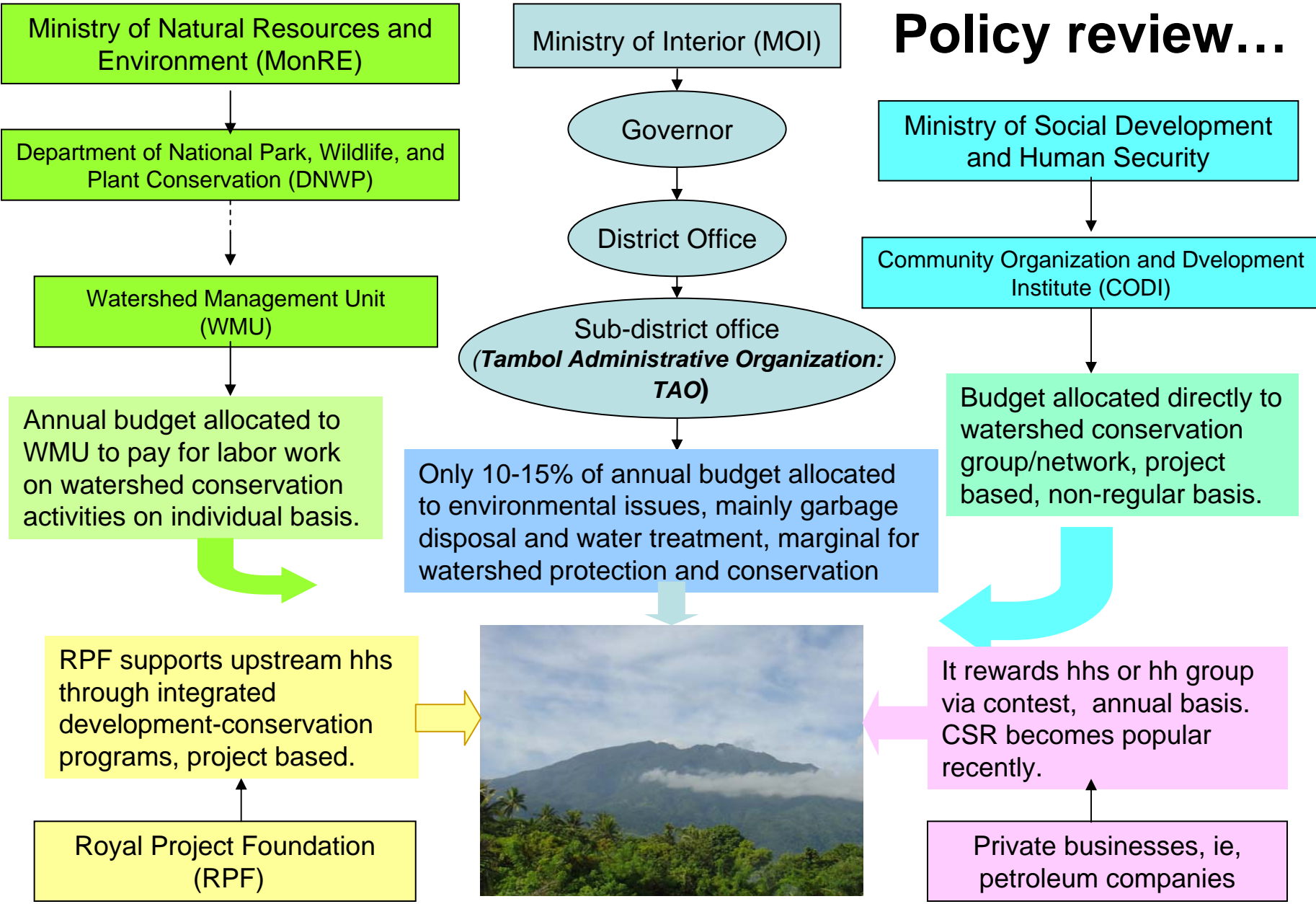
Total number of households in Wiang Papao District at 18,808

## ***Demand side***

- Downstream beneficiaries are aware of the significance of ML watershed forests => source of sustainable water supply
- >90% of them perceive the linkage between watershed forest and water supply
- >90% agreed to support people living upstream for watershed management practices
- Proposed types of PES/CRES are:
  - funding (in-cash) and in-kind provision
  - **knowledge and training for livelihood improvement**
  - recognition, ie., certificates or rewards
- Most agreed (as upland respondents) on the need to establish “**Mae Lao watershed conservation fund**” as source for sustainable financing of protection and restoration activities.

- Household's WTP is 137 B/year or 10-11 B/month (\$4/year)
- The potential local fund is about 500,000 B/year (\$14,246/year) if only 20% of households are willing to contribute
- PES approach for knowledge and skill enhancement related to livelihood improvement should be further investigated.
- Some simple environmental indicators and targets must be developed as the benchmark to ensure what they would pay for , ie., %reduction of forest fire, etc.

# Policy review...



No direct linkages b/w service providers and beneficiaries

# Existing forms of PES and PES-related Schemes in Thailand

Type (form) of PES-related scheme	Main purpose	Regularity of support/funding		Source of budget/fund	Linkages b/w service provider and beneficiary	Distribution of PES to service provider
		To S.P.	From donor/supporter			
1.Improved access to forest and water resources	To compensate for time and labour devoted for watershed conservation activities	Yes	Yes	MONRE, No budget required	Yes (service providers and beneficiaries are the same group)	Individual
2.Award, announcement, certificate for eulogy to the service providers	To appreciate and recognize on conservation efforts to the public	No	Yes	Private company, government agency	No	Individual or group

Type (form) of PES-related scheme	Main purpose	Regularity of support/funding		Source of budget/fund	Linkages b/w service provider and beneficiary	Distribution of PES to service provider
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3.Training, study visit, school education	To build and enhance capacity in conservation	No	Yes	Non-government and Government agency	No	Individual or group
4.Grants provided for conservation purpose	To support the continuation of watershed conservation activities	No	Yes	Government agency, non-profit/international organization	No	Group
5.Integrated conservation and development to improve livelihood (infrastructure, market preference, land tenure security)	To improve people livelihood then motivate them to protect watershed ecosystem	Yes	Yes	Non-government and government agencies (RPF)	No	Individual

## *Policy Review*

- Government and upstream villagers are main financiers of PES  
=> *“supply-side PES”*
- There is little coordination among government and non-government agencies or beneficiaries in supports of upstream villagers engaged in watershed conservation activities
- There is need to build up linkages between service providers and beneficiaries through the local elected administrative body, *“Tambol Administrative Organization (TAO)”*
- The fact that National Policy supports compensation for environmental services and that several private sector institutions and downstream households recognize the need to acknowledge service providers – indicates an enabling environment for PES.

# ***Recommendation***

To initiate the effective PES program, moving from “supply-side PES” to “demand side PES”, we need

## **Enhanced understanding and awareness of PES program.**

Suppliers and beneficiaries, civil society institutions, key line departments, related research communities: should be educated about the benefits of sustaining and improving the efficiency of watershed ecosystem services. Beneficiaries should recognize the costs incurred in securing the services by suppliers

## **Improved institutional management of existing watershed services and integrating a PES approach.**

Rather than implementing a new PES program, this approach should be integrated to existing services by promoting the participation of beneficiaries and facilitating them to function as buyers. This will help

- reduce the financial burden on the government by bringing in additional sources of funding
- create direct incentives for upland communities to sustain their watershed protection activities.

## ***Recommendation*** (cont.)

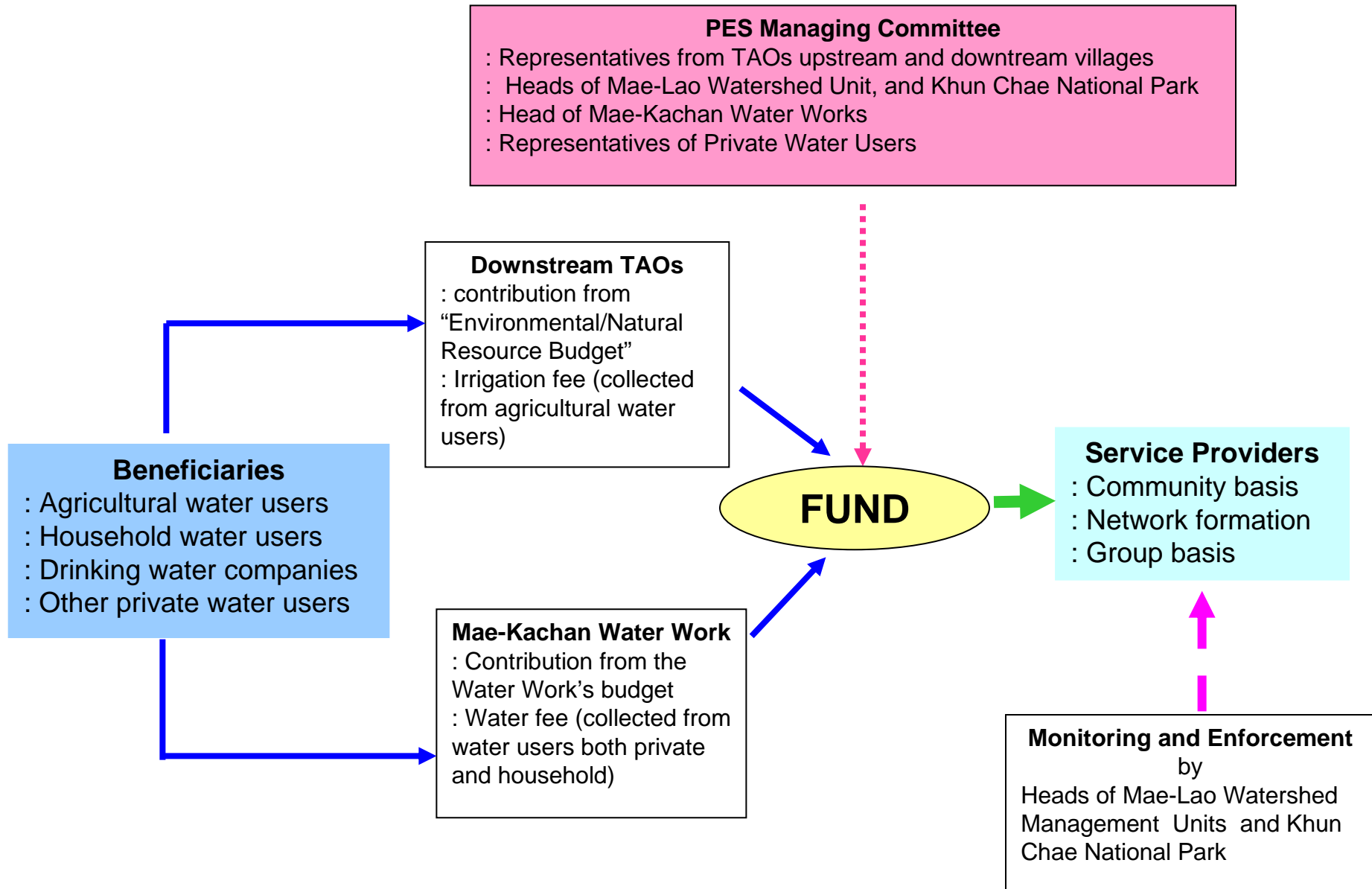
Technical support to upland communities for improving the efficiency and effectiveness of ecosystem services.

Along with line departments, other private sector actors need to be brought into a regulated and financially viable supply and value chain network that will link service providers to buyers. Special efforts are needed to ensure that the poor group have access to the new opportunities created by PES program.

Promoting research on assessment and valuation of the flow of ecosystem goods and services resulting from watershed conservation activities.

- Without comprehensive knowledge and information on these issues, it is not possible to confirm the financial and environmental sustainability of PES approaches.
- There is need to understand not only current and existing land use practices and behavior in upland and downstream communities,
- A more rigorous institutional and policy analyses will help identify the constraints and opportunities for future PES initiatives.

# Potential Institutional Arrangement for PES in Mae-Lao Watershed



# Proposed PES scheme

Begin with collective activities

Make it different from “conservation financing or ecosystem/green payment” or “traditional beneficiary pay principle”

Move to demand-driven PES

Type (form) of PES-related scheme	“Local watershed conservation fund” as part of TAO budget <b>Pro-poor and participatory approaches</b> , use traditional <u>conservation financing</u> and <u>conservation easement</u> at platform (conditions determined and agreed- <u>in kind</u> , i.e., food, equipment, skill training related to forest conservation or livelihood improvement) or <u>in cash</u> at least labor compensation), can be integrated with CSR
Main purpose	<ul style="list-style-type: none"> <li>• To maintain and enhance conservation activities that improve ES</li> <li>• To improve household livelihood (build and enhance livelihood capitals: natural resource, physical, social, human, and financial)</li> </ul>
Regularity of support/funding	YES and long term
Linkage between service provider and actual user	YES, with mediator setting.
Source of budget/fund	Government, non-government, and <b>direct beneficiaries</b>
Distribution of PES to service provider	By group or conservation network (individual support/payment arranged by group), same as “wholesale delivery”