



## CASE STUDY

# Improving the wildlife corridor between Khao Yai and Thap Lan National Parks, Thailand

*Assessing ecosystem service opportunities to prepare co-management and instrument design for ecological land use*

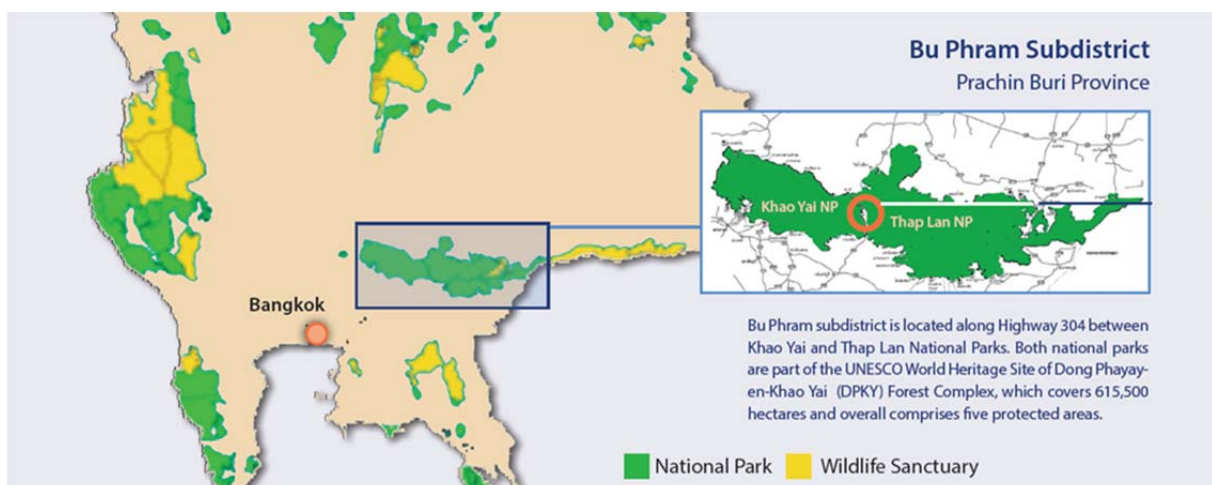
### In a nutshell

A stakeholder workshop and expert scoping following the Ecosystem Service Opportunities framework helped identify a range of opportunities to use economic instruments for improving the wildlife corridor between Khao Yai and Thap Lan National Parks, in the Bu Phram sub-district in Thailand. Legal constraints and distrust due to unclear land tenure had to be overcome for embarking towards an ecological development trajectory, on the basis of a co-management and benefit sharing agreement among local communities and park authorities. Once suitable instruments were chosen, several additional and very specific studies were conducted to support their implementation.

### I. Background of the ecosystem services assessment

The ECO-BEST project (2011–2015) aimed to reduce terrestrial biodiversity loss in Thailand and South-East Asia for the benefit of local communities through the application of economic approaches. Bu Phram sub-district (Prachin Buri province) located within Dong-Phayayen-Khao-Yai (DPKY) Forest Complex was chosen as one of the three pilot sites.

The objective was to enhance connectivity of the DPKY Forest Complex (UNESCO Natural World Heritage Site) by improving the ecological condition of the land along the highway separating Khao Yai and Thap Lan National Parks (see map). Over the last decades, intensive cropping of tapioca and eucalypt had severely deteriorated the natural vegetation (forest and grassland dominated by a native Lan palm tree).



Location of Bu Phram sub-district in Thailand

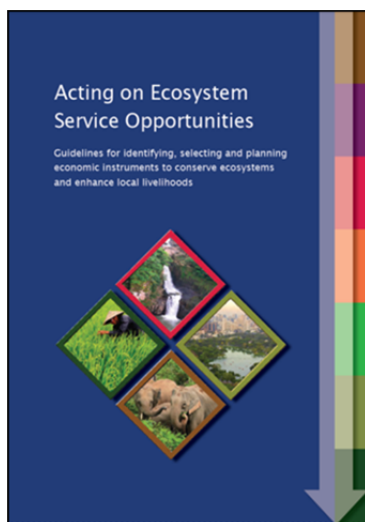


National plans and high-level political support – in particular to maintain the UNESCO WHS status of ‘outstanding universal value’ - helped generate momentum for the project, yet the local situation was characterized by the lack of trust and collaboration between park management and local communities, mainly due to the unclear land tenure situation.

## II. The assessment of ecosystem service opportunities and suitable instruments

There exist a number of different policy instruments to modify people’s incentives and motivate them to act more sustainably. The ‘Ecosystem service opportunities’ (ESO) framework (Rode et al. 2016) is based on the idea that suitable instruments would fill gaps and equalise imbalances between the groups which pay for the provision of ecosystem services and those which harm ecosystem services and/or benefit from them, and on capturing untapped business opportunities based on ecosystem services.

The step-by-step ESO guidelines for practitioners (Rode & Wittmer, 2015) provide detailed explanation and support tools for working through the framework in order to select suitable instruments (Steps 3 and 4), and then to design and plan the selected ones (Steps 5 to 7).



In the case of Bu Phram, preparatory work (Step 2 of the ESO guidelines) included a stakeholder analysis, communication of project aims via various stakeholder communication channels, a thorough understanding of the local context in terms of the environment, socio-economics, as well as the cultural, political, and legal situation including the conflicts around land use rights. A local project manager coordinated the relationship and communication with stakeholders.



The main part of the ESO assessment started out with a **stakeholder workshop**, during which participants mapped the relevant ecosystem services, specified their origin, and systematically assessed how stakeholders relate to or interact with the ecosystem services: as stewards who conserve or manage them, beneficiaries who use or depend on them, and degraders who negatively impact their provision (Steps 3A-3B of the guidelines). The workshop was also used to develop with stakeholders a joint vision for ecological land use in the area.

### 4A Identifying ES opportunities

Can we make sure that ES providers are rewarded in line with the benefits they generate and the costs they incur?  
*(Steward Earns Principle)*

Can we make sure that ES beneficiaries contribute to the costs of conservation in line with the benefits they enjoy?  
*(Beneficiary Pays Principle)*

Can we make sure that ES degraders are penalized or compensate in line with the damages they cause?  
*(Polluter Pays Principle)*

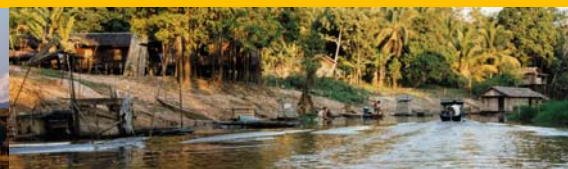
Can we tap into innovative business opportunities through which local communities may benefit from conservation?  
*(Innovation Principle)*

Based on the workshop results as well as further investigation of the local situation, the project team continued the ESO assessment in form of an **expert based analysis**: Specifying the gaps in ecosystem service provision and imbalances in costs and benefits of ecosystem service provision (Step 3C); identifying the opportunities to change behavior based on four basic economic principles (Step 4A – see Figure); checking whether it is appropriate to pursue these opportunities from cultural, political, and legal perspectives (Step 4B); and finally proposing suitable economic instruments that tap into the opportunities (Step 4C).

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### III. The assessment results

Table 1 shows the ecosystem service opportunities and suitable economic instruments that were identified by the project. Due to the unclear land tenure situation and the lack of trust and collaboration between park management and local communities, a co-management agreement was needed, within which more specific instruments and benefit-sharing schemes



could be developed. These include the promotion of wildlife watching and eco-tourism activities; markets for handicrafts made from native Lan palm leaves; certification schemes for organic agricultural products; financial and other support for farmers who restore grassland and let native tree species grow back; and corporate sponsorship schemes from downstream industries.

Table 1: Ecosystem service opportunities and suitable economic instruments in Bu Phram subdistrict

| Step 4 A:<br>Identifying ES opportunities                              | “Stewards earns” opportunities:   | „Beneficiary pays“ opportunities:   | “Polluter pays” opportunities:   | Innovation opportunities:  |
|--|---|---|--|--|
|  | <ul style="list-style-type: none"> <li>• Farmers could be rewarded (payments, honor certificates, technical assistance, etc.) for organic and wildlife-friendly agriculture and native tree restoration;</li> <li>• Farmers on Thap Lan side could receive security that native vegetation recovery will not lead to loss of land use rights;</li> <li>• Local authorities could be supported in their efforts towards sust. dev. by provincial and national authorities;</li> <li>• NP management could receive additional funds for restoration via benefit-sharing scheme.</li> </ul>  | <ul style="list-style-type: none"> <li>• Local tourism and shopping operators could contribute to grassland and palm tree restoration;</li> <li>• Community organization for Lan palm production could support sustainable harvesting on productive land and enforce non-use of Lan trees in forest;</li> <li>• “Verona resort” owner could contribute financially, with land donation (on Khao Yai side), and promote “sustainable business” in the area;</li> <li>• Local drinking water producers could contribute financially.</li> <li>• National and international conservation organizations could provide funds.</li> </ul> | <ul style="list-style-type: none"> <li>• “Verona resort” owner could be asked to reduce and/or compensate for his impacts (e.g., run-off from stables)</li> <li>• Speeding on highway 304 and road kills could be pursued and punished.</li> </ul>   | <ul style="list-style-type: none"> <li>• Ecological product certification; new markets for sustainable Lan products</li> <li>• Nature-based tourism (wildlife watching, bike tours, homestays, etc.)</li> <li>• Educational activities (wildlife, Lan education center)</li> </ul> |
| Step 4 B:<br>Checking the appropriateness to pursue the ES opportunity | Unclear, but potentially YES: on Thap Lan side it is currently difficult to pay people who do not officially have ownership land title; those farmers most inclined to ecological agriculture are the “newcomers” whose land use tenure is least secured.   | YES in general, but acceptability needs to be checked for each group of beneficiaries separately  | NO, with legal situation little chance to hold “Verona owner” liable via the Environmental Quality Promotion Act 1992, it is more promising to win him as an ally for partnership in green tourism etc.; Punishment for speeding subject to police, (collaborations with NP authority perhaps in far future) | YES, but requires trust in authorities by the farmers (rights to use land), investment and technical support on certification or label development and operation, and wildlife based tourism management.   |
| Step 4 C:<br>Pre-selecting suitable economic instruments               | <p>Due to the overlapping land use rights situation, an umbrella agreement between NP authorities and the communities is needed. A <u>co-management and development plan</u> as legal basis seems feasible under the National Park law Act, Article 19. This agreement can include and facilitate</p> <ul style="list-style-type: none"> <li>• official limited right to harvest lan palm leaves on farm land</li> <li>• zoning and mapping of land use for conservation purposes</li> <li>• support for development and benefit sharing scheme</li> <li>• <u>new markets for local and organic products</u> (e.g. ,organic rice, Lan palm products), <u>ecological tourism activities</u> (wildlife watching, waterfall tours, biking, homestays, etc.) and <u>educational activities</u>;</li> <li>• <u>certification scheme (eco-labelling)</u> and selling local products in the shopping complex;</li> <li>• <u>incentives for sustainable land use</u> (according to zoning - e.g., grass land for conservation management, mixed cropping, etc.) in form of money, green credits, access to loans, agric. assistance, insurance scheme for damage from wildlife</li> <li>• <u>corporate sponsorship schemes (CSR)</u> with “Kabinburi 304” industry downstream</li> <li>• <u>finest for speeding and wildlife road kills</u> (later stage, subject to police and national park authorities)</li> </ul> |   |  |  |



#### IV. Making use of the results for designing instruments and their planning implementation

The resulting ideas of suitable instruments for reaching the vision of ecological land use in Bu Phram were widely shared and discussed with stakeholders and the process of designing and planning the instruments (Steps 5 to 7 of the guidelines) was initiated.

Additional studies were conducted to support the instrument design:

- A legal assessment of the options for co-management and benefit-sharing agreements on land within national park boundaries,
- An evaluation of farmers' opportunity costs from different ecological measures on agricultural land (organic production, palm tree restoration, etc.),
- Elicitation of tourists and travellers' willingness to pay for ecological tourism services,
- A market analysis for certified and organic products.

By summer 2017, the Department for National Parks (DNP) with the the Advisory Committees of Thap Lan NP and of the DPKY World Heritage Site has officially registered the *Conservation and Ecosystem Restoration Fund (DPKY-WH Fund)* and created a new *DPKY-WH Association (DoKWHA)* as its official administrative body. The scope of the Fund should cover the whole DPKY World Heritage, with Bu Phram as first target area. The DoKWHA association aims to facilitate the development of co-management agreement between Thap Lan National Park and Bu Phram Sub-district Administration Organization (SAO). Co-management would involve

- 1) annual compensation payments to farmer for changing their current land-use (in particular tapioca cultivation) towards ecological restoration and organic agriculture,
- 2) monitoring farmers' commitments to wildlife-friendly land use,
- 3) promoting infrastructure and services to become a community-based wildlife tourism destination,
- 4) fund-raising for the DPKY-WH Fund from multiple sources (Lan palm handicrafts enterprises, tourism service providers, donations, etc.).

So far, 20 farmers have agreed to participate in the compensation payments, initially with an area of around 20 hectares. A first fund-raising musical is planned for January 2018. However, the Park and Bu Phram SAO are currently still lacking the official co-management agreement based on the 19th Article of the National Park Act of 1961. This is mainly due to the Park management's current priority to negotiate with the Highway Department the ongoing construction of bridges, tunnels, and wildlife fences surrounding the Bu Phram area.

It is too early for an impact evaluation of the envisioned policy and co-management instruments with respect to actually improving the wildlife corridor and enhancing the local population's quality of life within a new vision of ecological development. In any case, the ESO guidelines have definitely proven to be a valuable tool to structure and guide the assessment and planning processes.

The tool has contributed to a significant improvement of the conflict-laden relationship between the key stakeholders from Bu Phram SAO and park authorities, it has helped generate the ideas for concrete activities within a co-management scheme, and it has supported the design and preparation towards implementation.



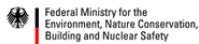
## V. Further reading/reference

Rode, J., Wittmer, H. (2015), Acting on Ecosystem Service Opportunities – Guidelines for identifying, selecting and planning economic instruments to conserve ecosystems and enhance local livelihoods, Helmholtz Centre for Environmental Research GmbH – UFZ , Leipzig, Available for download at URL: [www.ufz.de/index.php?de=34602](http://www.ufz.de/index.php?de=34602))

Rode, J., Wittmer, H., Emerton, L., Schröter-Schlaack, C. (2016), 'Ecosystem Service Opportunities': a practice-oriented framework for identifying economic instruments in order to enhance biodiversity and human livelihoods, *Journal for Nature Conservation* 33, 35-47.

Videos on youtube: <https://www.youtube.com/watch?v=27MCc5AC0X8> (4 minutes) and <https://www.youtube.com/watch?v=OB63XuBLCKA> (20 minutes).

On behalf of:



of the Federal Republic of Germany



Authors: Julian Rode (UFZ) and Piyathip Eawpanich (GIZ), 2017

Contact: [info@aboutvalues.net](mailto:info@aboutvalues.net)

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