

**External Evaluation of the Ban Nam Paeng & Ban Nam Ki
ComMod Case Study in Nan Province, Northern Thailand
Final Report**

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Table of contents

Summary of conclusions

1. Introduction

2. Research methodology

3. The quality of the trans-disciplinary research

- 4.1. Empowering stakeholders
- 4.2. Sharing process responsibility
- 4.3. Final interest and capacity of stakeholders

4. Effects & efficiency of the Companion Modelling process

- 5.1. Direct effects of the Companion Modelling process
- 5.2. Capacity building
- 5.3. Secondary effects
- 5.4. Human and financial costs

5. Effects of specific methods

6. Implications for the ComMod Charter

- 7.1. The post-modern paradigm
- 7.2. Interest of the ComMod approach
- 7.3. Replicability

7. Recommendations for future Monitoring & Evaluation of ComMod processes

Literature

Annexes

1. ADD evaluation interview results, June 2007
2. Format table to score possible effects and impacts
3. Table with results of effects and impact
4. Designer Questionnaire (by Cécile Barnaud)
5. Critical heuristic boundary questions
6. Article about initial diagnostic analysis
7. Canevas Nan
8. Journal de Bord

Background info:

- | | |
|------|---|
| I | Powerpoints preparations: a) Stakeholder/institutional analysis, b) Intro Nan, ComMod for communication across institutional levels, c) Intro farmer categories and RPG |
| II | Introductory note ComMod village workshops 14-18 June 2006 |
| III | Observation notes of village workshops a) Ban Nam Ki and b) Ban Nam Paeng |
| IV | Interview results of Cecile Barnaud (CB) in June 2006 |
| V | Interview results CB of September 2006 |
| VI | Powerpoint of results workshops, presented at NP office |
| VII | Preparation (a) and observations participatory simulation workshop in Ban Nam Ki (b), and Ban Nam Paeng (c), 4-5 November 2006 |
| VIII | Preparation (a) and observations (b) final workshop at RFD 20-22 December |
| IX | Interview results CB of December 2006 |

Summary of conclusions

Au travers du cas d'étude évalué, comment qualifiez vous la démarche ComMod en tant que pratique de recherche en appui au développement durable ?

Learning, engagement and stakeholders' decision-making for higher level negotiation

In both villages, the ComMod approach proved to be useful for individual learning about the consequences of the possible regulations imposed by the establishment of a new National Park (NP) on farmers' livelihoods. In Ban (= village) Nam Paeng, participants were less concerned about the NP regulations, and also noted they used the ComMod Workshop to learn about farm dynamics and possible farm strategies. Apart from this, village participants appreciated the fact that, for the first time, they were informed about issues, usually discussed between government authorities and local leaders. Poorer households were able to raise issues of their interest, which village leaders usually overlooked and ignored. Village leaders appreciated the village level exchanges and valued ComMod simulations because it enabled them to show higher-level government officers the local situation, to show their commitment to co-management, and to propose/negotiate certain favourable regulations. The Ban Nam Paeng village leader was very active, and would surely try these new communication heuristics. In Ban Nam Ki village, they recognised the potential of improved communication, but this insight did not mobilise them to solve the internal conflict that seemed to paralyse everybody. Through the ComMod workshop, Ban Nam Ki participants became aware that they needed village discussions on the NP issue, to attain unity and control of the encroachments before approaching the NP, but the ComMod activities (just three plenary sessions, coupled with individual interviews) was not able to mobilise them to the extent of getting organised and control the culprits. Village organisation and leadership was long lasting problem, difficult to tackle.

The workshops gathered all farmer categories, to show the complexity and variety of farmers' interests vis-à-vis the forest management issue. However, this approach could overwhelm the participants. Before being able to effectively discuss issues of high complexity, people need to explore the problem and their personal interest in a step-by step manner. Hence it might have helped when ComMod first organised preparatory workshops for homogeneous farmer categories, to explore their specific situation, interests and future options. This enables farmers (especially those who are not used to speak in public) to articulate their interest and arguments for the plenary village sessions.

With some extra support of the different farmer categories, discussions in Ban Nam Paeng might have evolved, producing concrete points for the NP negotiation. In Ban Nam Ki, the situation was more complex: here was a conflict between wards about forest encroachment and the access to Non Timber Forest Products (NTFPs). In such a case, ward discussions are needed to tackle this issue, before one can proceed with higher-level negotiations. Ward members need to discuss these issues and unite themselves to put pressure on the 4-5 influential households who encroach in the forest area. Only when these households comply, it is worthwhile to prepare a village proposal for the NP negotiations. In short, we can conclude the ComMod tools are strong in the demonstration of farmer behaviour,

interests and farm/natural resource dynamics, but more thought needs to be given to the variety of conflicts and the design of an overall communication/facilitation approach to overcome such conflicts. The present ComMod approach creates events for reflection and learning, but is too limited (short in time; small in number of people reached; and with limited legitimacy of outside researchers to intervene in politically sensitive local affairs) to mobilise a critical mass of people, needed to enforce collective NRM decisions. Linking up with local development actors and decision-makers is needed to ensure enduring support for such slowly advancing awareness-raising and change processes.

Multi-level negotiation

In the case of Thailand, the process of decentralizing decision-making regarding local renewable resources has been initiated in the 90s but is making slow progress so far. Most government officers are used to the hierarchical approach and find it hard to loose control and get involved in uncertain processes. This limits the present potential of the ComMod approach for multi-level negotiation and decision-making. The NP director welcomed the ComMod scientist to inform him, but there was a risk when getting involved in explorative negotiation with uncertain outcomes. He delegated some officers to attend the workshops, and this led to more mutual understanding and opening for future communications. Meanwhile, in line with his ministry's directive, he demarcated the final boundaries of the NP (favourably for the 'good' village of Ban Nam Paeng and negatively for the village with continuous encroachment, Ban Nam Ki). In such a context, ComMod activities serve as a first appetiser: it acquaints local people and officers with the possibility of bottom-up decision making and scenario enhanced negotiation. In December 2007, the General Secretary of Nan province in the governor office encouraged the ComMod team to continue with these kind of bottom-up learning and negotiation processes; he underscored researchers should not be discouraged by some reluctant government officers in the field but show the potential of new participatory decision-making heuristics.

Training scientists in a trans-disciplinary research and bottom-up resource management

While waiting for the decentralisation to proceed, ComMod trains Thai PhD students in the state of the art concepts (system resilience, adaptive management and collective action), methodologies and methods of trans-disciplinary research and decentralized resource management. These PhD students are the envisaged University lecturers, educating future government officers and resource managers. Unfortunately agricultural sciences are not the prime study domain aspired by bright Thai students, and several trainees experience problems when conceiving conceptual models, analysing complex situations by using a systems approach, etc. mainly because of insufficient academic background. The training of Thai researchers and university lecturers in the field of trans-disciplinary research still demands considerable effort because its underlying paradigm is so different from the ones used in the mainstream Thai education system. Furthermore there is a need for redundancy: it is important to train a substantial number of researchers, as a certain (perhaps high) percentage of the students will finally opt for interests and jobs outside the ComMod domain and/or will never become seasoned practitioners. The CIRAD team at Chulalongkorn University subscribes this need and presently focuses on PhD training. This is a laudable aspect, but one should keep in mind PhD students have scientific obligations and are not (yet) experienced facilitators; at times this will have a detrimental effect on the local learning and decision-making processes.

1. Introduction

This document reports on the ‘Agriculture et Développement Durable’(ADD) evaluation of the Companion Modelling (ComMod) exercise in the villages of Ban Nam Paeng and Ban Nam Ki of Tha Wang Pha District in Nan province, Northern Thailand. Dr. Ir. Annemarie van Paassen from the Communication and Innovation Group at Wageningen University and Research Centre, and Dr. Ingon Patamadit, a Thai sociologist, executed the evaluation. Dr. Guy Trébuil and Ponchai Dumrongrojwattana, researchers of the CU-Cirad ComMod project, facilitated the work of the evaluators. The evaluation consisted of preparatory meetings and Skype sessions to complete the designer questionnaire and to prepare the field visits (March-May), the fieldwork (June 5th –9th 2007), the writing of a first draft report (July-September), and its finalization in January 2008.

The Nan evaluation was part of a large-scale exercise, evaluating 34 ComMod research projects for Agriculture and Sustainable Development (‘Agriculture et Développement Durable (ADD)). The challenge of the ComMod exercise in Nan was to study the usefulness and potential of ComMod for multi-level learning and negotiations. After a preliminary research, the ComMod Researcher Cecile Barnaud therefore identified one village, Ban Nam Paeng, with a ‘good relation’ with a new National Park (NP) decision makers and another village, Ban Nam Ki, with a troublesome relationship. With the assistance of other ComMod researchers, she organised the following workshops:

- Introductory village Role-Playing Games (RPGs) and discussions about the consequences of possible Park boundary regulations for various farmer livelihoods, in Ban Nam Paeng and Ban Nam Ki (15-16 June 2006),
- Presentation and feedback session about the ComMod activities in the two respective villages to NP officials (20 September 2006),
- Village level participatory simulations & scenario analysis in Ban Nam Paeng and Ban Nam Ki (4-6 November 2006),
- Joint workshop, RPG, scenario analysis, and discussions with villagers and NP officers (21-22 December 2006).

For a detailed description of the ComMod activities at this Nan site refer to the Nan “Canevas” and the elaborate Designer Questionnaire (DQ).

The aim of the ADD evaluation was to assess the actual execution and impact of the ComMod approach¹ in different contexts, and to get ideas about how to improve the ComMod approach in the future. To allow for the scheduled comparative study of ComMod projects, the report tries to adhere to the evaluation format and guidelines of Pascal Perez and Sigrid Aubert as much as possible. The evaluation focussed on:

- To get more insight in the quality of transdisciplinary research: the fit of the ComMod approach in the local context (legitimacy), the provoked sharing of knowledge, the local ownership of the ComMod approach,
- To get more insight in the immediate effects of the ComMod approach on local natural resource users/managers and management processes, and the costs involved,

¹ We refer to ComMod as an approach because it does not refer to a specific sequence of methods (=methodology) but rather to a post-modern stance, and flexible use of methods in accordance with the local context and project objectives.

- The specific effects of the different methods applied,
- Implications for the ComMod Charter,
- Recommendations for future monitoring and evaluation.

2. Research methodology

The preparation of the evaluation started with the ComMod ADD meeting in Avignon, during February 26 - March 1st 2007. During this meeting we discussed the focus of the evaluation. What were the concerns of ComModians they wanted to be considered in the evaluation? On March 2nd, the evaluation team sat down, together with the ComMod designers to plan the evaluation activities. As the ComMod designer, C. Barnaud was about to take her maternity leave, it was decided she would complete the Designer Questionnaire as soon as possible. Other researchers of the team, Guy Trébuil and Pongchai Dumrongrojwatthana, accompanied the evaluation team in the field, to facilitate contacts and answer all emerging questions. This assistance was very helpful to get more insight in the background and reasoning of the ComMod team designers, before and during the field visits. Upcoming issues were discussed as soon as they emerged, and could be verified in participant interviews the very next day.

While referring to the Participants Evaluation Framework (PEF) and the evaluation guide, the evaluation team prepared guidelines for interviewing the participants. In the field, we did semi-structured interviews to encourage respondents to tell their story, but it proved to be worthwhile to prepare detailed questions, delineating the issues of interests. The participant interviews focussed on the following aspects:

- What do you remember best from the ComMod activities? What did you find interesting / learn?
- Learning about the issue
- Learning about other peoples' situation and opinions
- Collective engagement
- Specific effects of the various ComMod methods applied
- Capacity building
- Anchoring of the local decision making process in context: networking to get the recognition and resources for implementation
- Actions/new practices

Interviews need to be short to keep the attention of the participants (1-1.5 hours); hence we decided not to follow the process step-by-step but to ask people's appreciation of the various methods used.

In the field, the Thai sociologist Ingon Patamadit reinforced the evaluation team. It was very valuable to have a Thai evaluator, knowledgeable in the Thai way of learning and decision-making. Together, we executed the interviews with the following ComMod participants:

- **Nam Paeng Village:** Mr Pongsak (young man, type A), Warapom (young female, type B, daughter of Mr. Laonsunay), Mr Laosunay (old man, type B, Mrs. Waraphorn's father), Mr Singthong (male, type B, raises cattle), Mr Thirawat (young man, type B, Mrs. Waraphorn's brother & Mr. Laosunai' son), Mr. Boonlert (male, Type C, village leader and TAO representative).

- **Nam Ki Village:** Mr Ougkae Saychaou (type A, man), Mrs Muey Salii (type A, woman, shy and needed Mien-Thai translation, but she could not express herself), Mr Santi (former village headman, type B, had a slight road accident the previous night and could not be interviewed!), Mr Joylin (former leader of environment group in the village, type C), Mr Chanchay (type C & TAO village representative (Mr. Joylin's son), Mr Somkit (type C & TAO village representative).
- **Nanthaburi National Park:** Mr Pairoj Daraphaen (Chief of Nanthaburi National Park (NP)), Ms Warunee (young NP female officer), Mr. Naraet (young NP male ranger).
- **Nam Haen Sub-watershed Unit, Royal Forest Department (RFD):** Mr. Rawut Tanan (observed the June 2006 workshop and participated in the meeting with the NP officers in September and joined the second workshop in December).

Field activities were executed from Tuesday June 5th till Friday 8th. Most of the interviews took place in the mornings and afternoons and evenings were used to discuss, analyse and report the results.

The ComMod project executed field activities at this site from late 2005 to the end of 2006. To revive the memories and get a balanced evaluation, the evaluation team prepared two posters (one per village) with photos of all applied methods, and referred to these photos regularly. We got the opinion that the interview gave a satisfactorily rich picture of the effect and appreciation of various ComMod methods. For details, refer to annexe 1. Earlier interview reports of Cecile Barnaud were also very useful for the evaluation as they completed the picture (Annexe 2).

Fieldwork data were used to answer the structural questions of the evaluation guide. In the coming sections, we successively tackle the first structural question about the quality of the trans-disciplinary research (level of involvement and ownership of societal partners, section 3), and the effected learning, negotiation, engagement and action (section 4), and the appreciation of the specific methods (section 5). In Section 6 we use the evaluation results to reflect upon the present and potential future role of ComMod (the ComMod charter), and we conclude with some recommendations for future monitoring and evaluation (Section 7).

3. The quality of the trans-disciplinary research

1.1. Les interactions entre différents points de vue pour la construction d'une représentation partagée des interactions entre nature et sociétés

ComMod scientists embrace the post-modern stance and state that the ComMod approach can be used to:

- Take into account viewpoints of all parties, scientists as well as societal stakeholders, to construct a rich picture on the complex natural resource system
- To support collective decision-making.

In chapter 4 we elaborate on the effect of ComMod on local decision-making. In this section, we focus on the generation of knowledge. What is the quality of the trans-disciplinary knowledge generation? Does it encourage true participation and equal sharing of knowledge, viewpoints and values amongst partners, to get a rich picture of the natural resource management situation? Is the generated knowledge perceived as legitimate and societal relevant?

3.1. Empowering stakeholders

La modélisation d'accompagnement a-t-elle eu la capacité à « mieux » impliquer les parties prenantes dans les processus de décision collective ?

After the Mae Salaep case, the ComMod designer decided to test the utility of the ComMod methodology for empowerment of local stakeholders in a multilevel negotiation process. From the start, it was clear this was a real challenge because in the Thai context political-administrative officers were not yet used and committed to bottom-up processes. In this context, the ComMod approach managed to better inform and empower ordinary village members (men and women, and notably the poor) in village discussions, while also encouraging village representatives to take a pro-active, advocacy approach towards government decision-making. The diagnostic study revealed, several villagers were not aware of the upcoming formalisation of NP boundaries. Through the ComMod workshops several participants became aware of and learned about the NP problem and its consequences for their livelihood. So far, NP officials only dealt with village leaders and local inhabitants not informed about the details of the agreements, NP regulations. In both villages, inhabitants and village leaders appreciated the ComMod organised collective meetings and learned about the possibility of constructive negotiations.

Concerning the multi-level negotiations, villagers as well as NP employees noted ComMod tools (a) enabled NP officers to gain more understanding for the farmer situation and perspective and (b) enabled farmers to demonstrate their capacity and willingness of farmers to implement sustainable NRM. This is a first step to more intensive communication, advocacy and integrative negotiations. Unfortunately, the ComMod dialogue did not lead to any further negotiations. It was impossible to overcome long lasting ward conflicts of Ban Nam Ki and gain trust of the NP director in interactive processes.

Did ComMod create space for exchange of knowledge, viewpoints etc.?

La modélisation d'accompagnement a-t-elle pu créer (investir) un espace d'échange ?

Despite the emerging decentralisation discourse, most Thai government officers and political representatives are not yet used to inform and consult citizens in decision-making processes. As explained above: The researcher identified 4 horizontal and 3 vertical institutional constraints, which limited the exchange of knowledge and opinions amongst local people and with NP staff [excerpt from review of the ComMod designer]:

Factors inhibiting horizontal communication & convergence:

- Unequal access to information,
- Diversity in skills and motivation to participate in village meetings,
- Diversity of interest with respect to NP,
- Village representatives not always accountable to village members, especially the poor.

Factors limiting vertical communication and convergence:

- Village leaders not used to advocacy, nor demand accountability local government officers,
- NP officers not used to dialogue or negotiation with local population,
- By law ,the management of National Parks is under the responsibility of NP directors.

At the local level, the ComMod process enhanced the distribution of information in the village; the role-playing game enabled farmers with less communication skills to express their knowledge and interest concerning the NP issue; and the consecutive discussions enhanced the communication and accountability of village leaders vis-à-vis the villagers (in a non-threatening way). Due to the hesitant attitude of the NP director, it was difficult to get him involved in an open exchange and dialogue with the local people. The ComMod presentation and simulation shown to the NP officers (September), and the participation of some NP employees at the last workshop (December) created some more understanding of the villagers' situation, but the NP director did not want to get involved in any negotiation. His superiors in the Ministry would probably not approve of such involvement and expect firm action.

Legitimacy of the platform

Peut-on s'assurer de la légitimité des collectifs ainsi concernés ?

In principle, local stakeholders attribute legitimacy and authority to a platform, when there is a certain fit between the actual roles and rules of such a platform and the societal arrangements. One might introduce new versions, which have some proximity and connection with existing local arrangements. The ComMod initiative balanced on the thin line of legitimacy: at the dawn of the decentralisation the ComMod designer initiated a full-fledged participatory democratic process. Despite the decentralisation discourse, local villagers and local government officers were yet used to active involvement of local villagers in public decision-making. Government officers recognised the link between the ComMod process and the official ideas of decentralisation, but in departments such as those governing the National Park actual involvement in such democratic processes was not yet seen as necessary to enforce the existing legal rules. Local people seemed more open to the ComMod process, as they appreciated the information and inclusion in local natural resource decision-making processes. They perceived the ComMod team as a legitimate facilitator and intermediary, as the researchers were linked to Chulalongkorn University: a respected University that stood for neutral/objective science. In short, we could conclude that the ComMod approach was quite progressive and new within the contemporary Thai context. However this approach can be justified as it enabled the local population and government officers to get acquainted with, and experience the potential of the envisaged decentralisation approach.

Legitimacy of the intervention by neutral outsiders depends of the plausible risks and benefits that such intervention might bring. When there is no issue at stake or no feeling of interdependency among stakeholders, discussions platforms are likely to fail, and there is little legitimacy in starting them. In Nan Province, C. Barnaud wanted to test the effectiveness and assess the effects of the ComMod approach in different institutional environments; hence she selected one village with 'a good NP relation' (Ban Nam Paeng) and another village with 'a troublesome NP relation' (Ban Nam Ki). To assess the legitimacy of the intervention, it was important to assess the possible benefits and risks of a ComMod process in these villages. After the stakeholder analysis it seemed possible to organise a successful multi-level knowledge sharing and negotiation process for both villages, but there were two draw-backs: (a) at the first workshops it became clear conflicts were more complex and entrenched than anticipated; and (b) the composition of the facilitation team changed during the process and PhD commitments limited the time available to adequately support a lengthy learning and negotiation process. More time, more presence, excellent mastering of the local language, and cautious operations were needed to successfully resolve forest issues in a contentious village such as Ban Nam Ki.

The nature of legitimacy

Quelle est la nature et la légitimité du (des) collectif concerné ?

- The participants, representing different categories of farmers and wards, with different interests with respect to the delineation of the National Park boundaries and its management rules, especially regarding NTFP gathering;
- The village leaders and TAO representatives of the respective villages. They have the government recognised formal position to look after the welfare of the village community, and represent the village vis-à-vis government institutions.
- The NP director and officers are legally responsible for all issues related to the NP area (by law).
- The ComMod project team as neutral scientists, allied to the highly respected Chulalongkorn University in Bangkok, and knowledgeable in participatory natural resource management approaches. Most villagers accepted the ComMod team as guides and instructors: they acknowledged ComMod researchers taught them about the consequences of the upcoming NP regulations, and they accepted the proposed open discussion and negotiation approach.

Does the dialogue enlighten the participants?

Ces participants ont-ils pu s'épanouir dans cet espace de dialogue ?

- Yes: various villagers became aware of the upcoming NP regulation and the consecutive consequences for their livelihood;
- Yes; various villagers (notably key actors) became aware of the possibility and potential of wider village discussions, village unity and pro-active advocacy and negotiation with higher-level government officers (see details / concrete examples in section 4, and the results of their interviews in annexe 1);
- No, in the case of the NP director and 4-5 households in Ban Nam Ki who preferred unilateral actions rather than mutual agreement.
- No, people did not come to the stage of jointly exploring and agreeing on possible (win-win?) solutions with respect to the village-forest boundaries, use and management of NTFP such as Arenga palm fruits and house construction timber, the use of guns, the prevention of forest fires, etc.

Has the collective become stronger (number of people subscribing the point of view, feeling of cohesion and engagement?)

Le collectif s'est-il renforcé (taille ou cohésion)?

In Ban Nam Paeng, the village leader understood that it was worthwhile to use ComMod games and simulations (a) to mobilise villagers, discuss and create consensus on NP issues, and (b) to demonstrate the villagers' commitment to sustainable forest management and create an opening for favourable NP negotiations. As a consequence, villagers adopted a restrictive NRM approach at the game in the joint workshop in December. All participants had the feeling they needed to show their commitment to sustainable forest management, to improve their relationship, ways of communication and prospective livelihood opportunities vis-à-vis the NP. However, due to the reluctance of the NP director, the discussions and engagement did not evolve. In Ban Nam Ki, internal division prohibited unity and engagement.

3.2. Sharing process responsibility

Comment les participants se sont-ils impliqués dans l'organisation du processus de décision collective ?

In what way did ComMod make participants becoming in charge of the process?

Le commodien a-t-il facilité l'implication (la prise en charge) des participants dans l'organisation du collectif (maîtrise du calendrier, réunions autonomes ou conception d'outils spécifiques) ?

First of all, it is important to consider that within Thai culture, people tend to respect authorities and leaders, as they expect these 'knowledgeable and responsible' people to take care for them. Secondly, we need to acknowledge, various villagers were not aware about the upcoming NP and the far-reaching consequences of its establishment for their livelihood. Thirdly, villagers and village leaders were not used to open village discussions and pro-creative advocacy and negotiation with higher-level government officers; the ComMod team introduced a whole new communication and decision making routine, in which they first had to guide local stakeholders. The ComMod designer noted she felt people expected her to guide them in the process (refer to the designer questionnaire, Annexe 2). The ComMod activities served as a first appetiser, so we cannot expect the local stakeholders to become in charge.

Did participants gain more autonomy and control during the process?

Les participants ont-ils acquis une autonomie et un contrôle croissants du processus?

Not much. The village leaders were consulted with respect to the selection of workshop participants and their timing, but the activities, topics, and tools used were pretty much prepared by the ComMod research team.

Was the risk for manipulation monitored?

Le risque de manipulation a-t-il été suivi et évalué ?

The ComMod designer closely monitored the communication and learning process evoked by the ComMod workshops, and was very attentive to gender and power issues. In Ban Nam Paeng, the research team needed to balance the lack of attention of the village leader for poor category A farmers. In Ban Nam Ki, it was clear, the forest encroachment and aggressive attitude of 4-5 influential non-present households in the central ward troubled the participants and led to a schism between wards. The ComMod designer regularly refers to these 'ward-problems'. However such conflicts are difficult to solve and require much additional mediation and negotiation efforts, which are beyond the present ComMod approach.

The attitude of the NP was crucial for the process, and also closely monitored. His reactions were unwarily and unstable: during the first official ComMod presentation he admitted the ComMod approach better informed him about the farmer situation, but he did not feel like approaching the farmers to flexibly search for optimum solutions. The very limited collaboration of the NP director highly influenced the process, but was difficult to improve or level out. His successor may act differently, as discussions and attitudes slowly change.

What was the influence of the researchers on the outcome of the collective discussion?

Quelle a été l'influence des chercheurs dans les produits issus du processus de décision collective?

In general, the ComMod team had much influence as they remained in charge of the organization and scheduling of the successive activities all along the ComMod process. However in the construction and use of the models, there was much consideration of the

perspective of the participants. In Nan, the ComMod designers conceived a simple RPG. The actual game behaviours of the RPG participants were recorded and integrated in a gaming Agent-Based Model (ABM), to stick to the reasoning and actions of the local people as much as possible. Respondents recognised ‘their reality’ and the usefulness of the games, participatory simulations, and scenario assessment to learn about forest management and its consequences for their livelihoods. The tools and the selected topic (first general, then focussing on the co-management of NFTP) created a good atmosphere and some mutual understanding. However the process to not attain the critical mass and level of engagement needed to solve concrete RRM problems. At the NP level, it was hard to get results, due to the power and negative attitude of the NP director.

3.3. Final interest and capacity of stakeholders

Comment la démarche s’est-elle insérée dans les réseaux sociaux existants et comment ces réseaux se la sont-ils appropriés ?

Were participants interested to use the ComMod approach for other issues?

Les membres du collectif ont-ils ressenti l’intérêt de recourir à la démarche ComMod dans d’autres situations ?

Most village participants found it difficult to imagine other issues, for which they would like to use the ComMod approach. Reason may be that the ComMod process did not yet lead to concrete solutions and negotiations; and many participants did not yet understand the potential of the ComMod process. Key actors, however, had a better overview and proposed the following issues: The Ban Nam Paeng village leader proposed to use the ComMod approach to explore possible farm strategies such as to investigate the added value of integrated cropping versus monocultures. Mr. Joylin suggested to use ComMod to explore the relation between Lychee production and possible NP regulations (in Ban Nam Ki there were lychee plantations in areas earmarked to be reforested) and recommended to use ComMod for awareness-raising in two other villagers facing similar problems than Ban Nam Ki. ComMod showed villagers the need for consensus and integrative negotiations.

To our surprise the Nanthaburi National Park director stressed that he would like to use the ComMod approach “to research the cattle issue” [some villages have a considerable cattle herd which roamed around and, according to him hamper reforestation efforts]. He invited the ComMod researcher Pongchai Dumrongrojwathana to start his fieldwork on this issue and make use of the NP facilities. Apparently, the director had little to loose concerning the cattle issue as it is a real problem he did not know how to tackle. However, he questioned the effectiveness of the ComMod approach vis-à-vis troublemakers, who strategically ignored workshop meetings (staying away is their Best Alternative to Negotiated Agreement (BATNA)). The observing RFD officer, Mr. Rawut Tanan, made similar remarks concerning the inclusion of troublemakers. This is an issue ComMod scientists need to think about. Till what level are they able to convince other stakeholders of the interest/added value of collaboration, thus motivating them to put pressure on and control troublemakers.

Concerning the applicability of ComMod in the present Thai context, the RFD officers made some interesting remarks:

- He liked the approach, especially the fact that issues were not decided upon by village leaders, but rather discussed and agreed upon by villagers;

- The strongpoint of the approach was the creation of communication and mutual understanding. This was something they needed in the highly hierarchical government system structured in numerous compartments.
- As an extension workers he would not be in the position to organise such workshops as it was ‘mai wai’[too demanding] and requested a team effort;

Did ComMod researchers transfer competences to the people?

Le commodien s'est-il donné les moyens de transmettre la démarche ComMod aux membres du collectif ?

Given the level of education, it is impossible to transfer crucial ComMod competences such as the development of RPG or computer simulation models to local people. It is more suitable to consider long-term engagement with local government departments (the present offices such as the RFD that really embrace the participatory approach), NGO's and Universities. Local extension officers can organise games and discussions, but have no time and expertise to build the computer scenarios. They need scientists to build the scenarios for them. Continuous training of Thai researchers is a pre-requisite. ComMod PhD candidate Pongchai Dumrongrojwathana is ready to assist future ComMod activities in this district of Nan province, especially on the topic (cattle in the forest) raised by the NP director. Apart from him, there are 3 other Thai PhD students involved in ComMod modelling. It is recommended to enlarge the number of students and guide students with different interests: the modelling part as well as the discussion facilitation part.

Do the actors 'own' the ComMod process, including the conception of the tools?

Comment les acteurs se sont-ils appropriés la démarche, y compris la conception d'outils supports éventuels ? Ont-ils de plus en plus contrôlé le processus ?

Not really, as explained above.

Do local people feel capable and autonomous to carry out the ComMod approach in the future?

Les membres du collectif se sentent-ils autonomes pour porter la démarche ?

- No. Various participants did not yet understand the focus and final utility of the ComMod approach. Key actors did see the interest, but perceived ComMod primarily as a 'scientific approach'(see above).

4. Effects & efficiency of the Companion Modelling process

L'engagement des parties prenantes dans la gestion des ressources concernées

4.1. Direct effects of the Companion Modelling process

- *Quels sont les résultats de la modélisation d'accompagnement ?*

The aim of the ComMod team was to explore the relation between farmers' livelihood activities and forest conservation (especially the boundary demarcation for arable fields and sustainability of Non-Timber Forest Products (NTFP) collection such as Arenga palm fruits), to facilitate the negotiation between villages and the National Park Officials. The majority of the players, amongst them all TAO representatives and NP officials, highlighted 'the improved communication and understanding between villagers and the NP' as most important effect. Some farmers, especially from Ban Nam Paeng, did not bother about the Park boundary negotiations ('those issues are already decided upon'), and appreciated the improved insight in farm dynamics. [For details refer to Annexe 1.]

Learning about the issue

▪ *Production de savoirs*

Most farmers said they knew how to collect forest products, allowing regeneration, as both villages have community forest areas. For them, ComMod enabled them to learn about specifics of the NP boundary demarcation: the allowance for lychee and coffee plots, collection of Arenga fruits and lumber, etc. In the joint workshop, farmers of Ban Nam Ki learned about the NRM practices of Ban Nam Paeng and visa-versa. Village representatives noted they learned about the idea they could collaborate and negotiate to solve issues, while ordinary villagers focussed on the substance of the forest demarcation and conservation rules. NP employees, on their part, were surprised to learn that villagers actually conserved forest resources and cultivated forest plants such as Arenga palms.

In Ban Nam Ki the delineated Park area includes part of their community forest and cultivated land, hence they focussed much on the Park issue. In Ban Nam Paeng, the NP boundary was no issue of concern. Here some ComMod participants claimed the workshops enabled them to learn more about farm dynamics. Mr. Singthong mentioned, before he just imitated others. The game made him realise that he would fail when just imitating others. Now he realised that “to succeed and gain profit, you need to think about the consequences of the actions”. Mr. Ougkae highly appreciated the computer simulation, because it enabled him to think about his farm future. Mr. Joylin learned about fertilisation techniques.

Learning about other peoples' situation and opinions, re-framing and engagement

▪ *Modification des perceptions*

Participants noted the ComMod workshop enabled them to better understand the farm behaviour of co-villagers and the crucial importance of NTFP for the poorer households. However, participants mostly highlighted the increased understanding of villagers vis-à-vis the NP officials. Before, several villagers thought NP officials wanted to re-locate villages out of the Park area. For them, the ComMod workshop was the first occasion to meet the NP officials in person, and learn about the proposed NP delineation and underlying objectives/wishes. “NP officials now seem approachable”. ComMod was the first communication process to explicitly include local villagers in NP border discussions. In research interviews, participants highly appreciated this aspect.

The Ban Nam Paeng village chief pointed out that ComMod helped to tackle the negative stereotyping of NP foresters: “Though villagers conserve forest resources, NP officers still see us as destroyers. They do not discriminate between villagers who conserve, and those who do less. When there is a fire outbreak at another village, which reaches up to our village, we are blamed. With the help of ComMod, we want foresters to understand our life style, what we need and how we use the forest in a wise way, allowing regeneration”.

This learning triggered personal re-framing, but did not lead to much collective engagement. In Ban Nam Paeng, the village leader noted that “the game created more discussion and a clearer picture about how to attain sustainable forest management” However, concerning the NP negotiation, people did not know what to get engaged about: the main issues-at-stake had already been decided upon by the village leader and NP officials in October.

Improving relationships (networking, informing, persuading, committing, collaboration on the issue)

- *L'aide à l'interaction avec l'autre (interactions sociales, réseaux sociaux)*

Several farmer participants talked about the ComMod workshop with friends and neighbours. However several noted non-players were not able to understand what the game was about. Thirawat explained it was easy to discuss fruit harvesting practices with players, but non-player thought he just advocated his personal opinion. To include more villagers in the discussions and gain trust for the ComMod process, the ComMod team organised an extra participatory computer simulation in Ban Nam Paeng and Ban Nam Ki on 4-5 November 2006. The simulations used 12 virtual actors, and invited one real player from each farmer category to play, while explaining his/her actions to the audience. In this way, other villagers would learn about the ComMod process, the natural resource management (NRM) situation and their position vis-à-vis the NP. In Ban Nam Paeng, only 14 people showed up at the meeting. After some initial problems there was a high attendance (about 50 people) in Ban Nam Ki, and there was a lively debate. In Ban Nam Ki, the meeting created more trust in the ComMod team, but the mutual trust among wards remained shallow (Refer to observations of the participatory simulation workshops in November 2006). According to the respondents, people talked about the issue for about 10 days, and then the subject changed again.

As mentioned before, villagers and NP officials (including the Park director) noted the workshops created the first face-to-face contact, and helped them to better understand each other's behaviour and pre-occupations. Ms. Warapon said that “this was an important step to establish good relationships”. People from one village, for the first time discussed their problems and issues with people from another village. Now they exchange experiences, when they meet at the market place. The village leader in Ban Nam Paeng even called a meeting to emphasize the need to collaborate amongst villagers, amongst villages, and with the NP. However, after the workshops, there has been no further contact between the villagers and the NP. Villagers are waiting.

Actions/new practices

- *Le changement de pratique (mode de prise de décision, ...)*

Apart from the Ban Nam Paeng project proposal to improve monitoring of village forest conservation practices, ComMod activities did not lead to new farm practices, forest management, or communication and collaboration practices.

The NP director informed the evaluation team that he unilaterally decided upon the forest demarcation. The map shows that he reduced the park area for about 40% to allow villages adequate forest areas to sustain their livelihood. He created space for the ‘good performing’ villages like Ban Nam Paeng, while reducing the farm and forest allowances for ‘bad performing’ villages like Ban Nam Ki. He preferred not to get involved in negotiation processes with an uncertain outcome.

Identification of joint monitoring & evaluation indicators

Identification d'indicateurs de suivi partagés

This topic was not thoroughly discussed as the participants. At the last ComMod session, participants agreed to further reflect upon forest fruit collection rules, land demarcation and prevention of forest fires. The process did not (yet) get to the phase of the actual reflection

and identification of indicators of improvement (Refer to observations during the last joint workshop in December 2006).

4.2. Capacity building

...To take charge of collective management of natural resources

À prendre en charge un processus de gestion collective de ressources naturelles renouvelables

Both villages had community forests, for which they had developed natural resource use and management rules. After the ComMod workshops some people from Ban Nam Paeng gathered to draw a project proposal to improve the monitoring of the village natural resource management. In Ban Nam Ki, each of the three wards had its own forest area and applied different use and management rules. In the central ward four to five well-off households used their part of the community forest to plant coffee bushes, and therewith defied the forest boundary and community management rules. The ComMod process raised the villagers awareness about the need to tackle this issue, but did not come to the stage of collective problem exploration, identification of solutions and action.

With respect to the multi-level negotiations, the NP director preferred to take charge of the forest management decisions himself, rather than to share this responsibility with local villagers.

...To attain collective decision-making

À se mettre d'accord sur des décisions communes et ...

In Ban Nam Paeng, the village leader and participants appreciated the democratic discussion about the NP regulations and hoped the ComMod approach would enable them get into constructive advocacy and dialogue with the NP director. In Ban Nam Ki people became more conscious about the situation, but due to lack of leadership and deep-entrenched conflict they remained divided. Efforts of the ComMod researchers to include the director of the Nanthaburi National Park in the discussions and joint decision-making did not work out positively.

According to Dr. Benchaphun Ekasingh (research collaborator at Chiang Mai University), “the present political situation is such that villagers are not powerful enough to convince policy makers, even local ones”. Careful networking and building up of trust relations remains essential when involving higher-level decision-makers. When acknowledging the primacy of authorities, scientists can play a broker role (as mentioned by Dr. Benchaphun). They can take a neutral positions (proving information about local situations and all possible management options); or advocate a specific solutions with compelling arguments and stories.

...To enact, implementing creative solutions

À les transformer en actions concrètes créatrices d'impact ?

This was not possible at the collective level, because of the lack of common agreement (see above). Nevertheless, ComMod workshops put the forest conservation issue on the agenda.

What is the character and level of learning triggered by the ComMod intervention?

Mesure et caractérisation des phénomènes d'apprentissage suscités par la mise en œuvre de la démarche (au niveau des choix des individus et des organisations)

In Nan, ComMod primarily offered an opportunity (a) to learn about the consequences of proposed NP regulations, (b) to learn about possible democratic village level information and decision making procedures, (c) to create mutual understanding between villagers and NP official. The ComMod process enabled participants to structure and formulate the problem, but did not arrive at the stage of concrete problem solving

Was the overall objective of the ComMod exercise clear (despite the iterative nature and regularly reformulation)?

Les objectifs du projet ont-ils été suffisamment explicités, malgré leur reformulation successive ?

In Nan, people were not very much acquainted with the ComMod researchers, and had some problems understanding the ComMod process and its objective. The ComMod team found it difficult to explain the process in advance. There was a general exchange about participatory processes, but no detailed discussion about the desired form and level of involvement of the various actors. Due to distrust and conflicting atmosphere, people also tended to misinterpret information. The participatory simulations created more clarity and trust, but various participants noted they did not know where they were heading for. Some people suggested that a film about the ComMod process would have helped them to better know and reflect upon the ComMod approach. It seemed the overview poster prepared for the evaluation, coupled with a short explanation helped people to understand the overall objective of the process.

Respondents noted main outcomes of the ComMod process was improved communication and mutual understanding between villagers and the NP. However, it was not clear what the negotiations would/could bring: What benefits could they expect? The ComMod workshops at the village and the RFP office covered many issues and interests at stake, and it was not clear what issues would be focussed on and resolved. Finally, the participants agreed they would further reflect upon three priority-issues: forest product collection rules; forest encroachment; and prevention of forest fires, but as the ComMod designer's field work had ended no further action was taken.

4.3. Secondary effects

Quels effets secondaires (positifs ou négatifs) la mise en œuvre de la démarche a-t-elle eu sur les relations sociales ?

The ComMod process in Nam Haen did not lead to clear effects such as reframing, engagement and/or actions; hence there will be very little secondary effects. What respondents mentioned is that people from the two villages now discussed issues, when they met at the market place. So, in a way, it has improved the communication between the two villages Ban Nam Paeng and Ban Nam Ki.

Contributing to sustainable development?

Quels apports des décisions collectives atteintes à la mise en œuvre d'un développement durable ?

To get an impression on the immediate and long term effect of the ComMod process, the evaluation team asked 5 literate participants (2 from Nam Ban Paeng and 3 from Ban Nam Ki) to read our impact diagram (refer to Annexe 2), and underline the clear effects (value=1) and apparent effects (value=0.5) of the ComMod exercise in the Nam Haen case study. In Annexe 3 we calculated the gross total (number of times mentioned) and balanced total (total value) attributed to each aspect. In the table below, you will find the effects that received a balanced value of 2.0 or more based on the answers provided by the 5 respondents.

Main ComMod effects, as identified by 2 participants in Ban Nam Paeng and 3 participants in Ban Nam Ki of Nan province in June 2007.

Domain	Immediate effects (Balanced value)	Long term effects (Balanced value)
Technical	<ul style="list-style-type: none"> • Knowledge about nature dynamics, agricultural practices and their production effects (2) • New agricultural techniques applied by some individuals (2.5) • New nature protection measures applied by some individuals (2) 	<ul style="list-style-type: none"> • <u>Nature is conserved for our children (4.5)</u> • Livelihood effects (2)
Personal Individual	<ul style="list-style-type: none"> • <u>Better know how to look at a problem, how to search for the cause of a problem (3)</u> • Better know how to exchange opinions with others (2.5) • Better know how to decide together, to find good or acceptable solutions (2) 	<ul style="list-style-type: none"> • <u>More initiative to solve problems (3)</u> • More feeling of togetherness and belonging (2.5) • To say more in discussions (2)
Social Together	<ul style="list-style-type: none"> • Concrete description of what we want to achieve with activities (2) • Good distribution of tasks to check the actions and the effects (2) • Well defined sanctions for wrong doing (2) 	<ul style="list-style-type: none"> • <u>Good village organisation (clear tasks and (ways of doing) to encourage/force people to farm good and also protect nature resources (4.5)</u>
Relation with outsiders	<ul style="list-style-type: none"> • <u>To make contact with outsiders (3)</u> • <u>To talk with outsiders and exchange information (3)</u> 	<ul style="list-style-type: none"> • <u>To know how to ensure that important things come on the agenda of high level decision makers (4)</u>

The table provides the following results:

- At the technical level, participants note they gained knowledge about agro-ecological production dynamics. This enabled them to identify new individual farm practices or strategies (rather than collective management options). In this way, they hope to better protect nature (highest score: 4.5), thus ensuring long, healthy lives for their children.
- At the individual level they learned new problem solving heuristics: how to approach a problem, how to exchange experiences and how to jointly agree upon a certain solution. Apparently this was more about discovering new heuristics, than already feeling capable

and confident in practicing these new problem-solving heuristics. Nevertheless, they expect in the long term, they will take more initiatives in problem-solving. They feel more comfortable to express themselves and jointly discuss the issues-at-stake.

- With respect to the collective management, there are no real outstanding effects. Some think there was more exchange and mutual understanding. But what seems more important: they note they have learned how to discuss goals, divide tasks and apply sanctions, which (they were quite sure) would finally lead to a better village organisation enabling / forcing villagers to farm in an ecologically sustainable manner. (score of 4.5!).
- With respect to outsiders, they noted they learned how to approach and talk to outsiders. In the long run, this would help them to put issues on the agenda of higher-level decision makers (score 4)!

When looking at these results, respondents are less clear about the immediate effects of the ComMod process, but (a) they are aware of the need for sustainable farm and forest management, and (b) they feel they now know how to approach outsiders to put their issue of concern on the agenda of higher-level policy makers.

4.4. Human and financial costs

Pouvez-vous, dans une perspective de développement durable, apprécier la gestion des coûts (monétaires et humains) liés à la mise en œuvre de la démarche ComMod dans le cas d'étude qui vous a été soumis ? Efficacité (atteindre l'objectif) et robustesse (rémance) ?

Estimated cost of a ComMod sequence in Nam Haen sub-watershed of Nan province in 2006: preparation, field workshop and post workshop monitoring.

Cost of a field workshop:

	Unit cost	Unit number	Cost (euros)
Personnel			2400
- Expat. Scientist	300 / day	3 days x 2	1800
- PhD student	50 / day	4 days	200
- Local scientists	100 / day (5 pers.)	3 days	300
- Villagers particip.	50 / day (12 pers.)	2 days	100
Travel			1000
Supplies			300
Total			3700

Cost of pre-workshop preparatory & post-workshop monitoring trips:

Sequence 1= 1500 euros,

Sequence 2= 1500 euros.

Total cost of the whole ComMod process during June-December 2006:

- Three 2-day field workshops = $3700 \times 3 = 11100$ euros
- One day meeting with the NP officers = 400 euros
- Preparation & monitoring trips = 3000 euros

- Total cost of the process = 14500 euros.

One can see that the participation of several foreign scientists in the implementation of the ComMod activities in Nan Province in 2006 can be estimated at almost 50% of the total financial cost of the whole process. Therefore, when local scientists and their associated development workers would be autonomous in the implementation of such activities, their total cost could be halved. In the current Thai context, and especially in these poverty-stricken border areas of the country, if a local development agency had collaborated effectively with the research team, their level of financial resources / annual budgets would have allowed them to practice similar activities in the field. Point of consideration is the availability of a group of people at the time of the workshop, to be able to efficiently organise the Role-Playing Games.

5. Effects of specific methods

Pouvez-vous identifier des méthodes dans la démarche étudiée qui contribuent de manière significative au processus de décision collective (10 pages max.) ?

Introduction of the ComMod team in the village

Thai people highly value personal relationships. Trust and collaboration depend on personal contacts rather than an interest in a specific topic. Especially when you are going to deal with sensitive issues, it is important to enter a community via neutral actors visiting all village key actors to explain the ComMod intentions. In Ban Nam Paeng, there was much social cohesion, no tension and the village leader supported the ComMod activities, but in Ban Nam Ki there was much distrust. In this village, the introduction and the legitimacy of the ComMod team was problematic. Officers of the Royal Forest Department (RFD) introduced the ComMod team to the village. Since the mid-nineties (thanks to a major project funded by DANIDA), the local, RFD officers have been collaborating with villagers in a participatory way, but many villagers easily linked RFD officers (and ComMod!) with National Park authorities. However, it is doubtful whether an introduction by a neutral person would have been more successful: there were rumours that the Ban Nam Ki villagers expelled a former school teacher when he started lessons on sustainable forest management. Some influential households were involved in forest encroachment; hence any person touching upon the issue of sustainable forest management would encounter opposition and distrust. Transparency, regular contact with all village and ward leaders, and careful manoeuvring was necessary. Through the monitoring, the ComMod team understood these difficulties and tried their best. They invested in village level participatory simulations (in November 2006) to gain more confidence. However, in Ban Nam Ki, due to internal conflicts and tensions, people continued to distrust ComMod activities: at the evaluation one TAO representative still asked explanations about the project objectives and noted he had felt uncertain and uncomfortable at the ComMod workshops.

Diagnostic survey

Before starting any collective activity, the ComMod team visited the area 5 times for 3-8 days and had about 3-6 interviews each day. In this way they collected data about the physical environment, talked with key actors about the socio-economic and agro-ecological history of the village, the social differentiation, to conclude with more detailed farm surveys. Apart from this there was an institutional analysis (often called stakeholder analysis) of the park conflict to characterize the various interests, positions and interactions (or lack of) among stakeholders. Aim of the institutional analysis was to assess the potential of a democratic

bottom-up decision-making process, to adjust the ComMod process when needed. The institutional analysis revealed that there was mistrust (villagers thought the team was sent by the NP), and curiosity (people were not fully informed). The researchers noted: “the current NP director is very much attached to the vision of a ‘real park’ and even more attached to the ‘respect of the law’. However, he tries to ignore most conflicting actions of the farmers, and a staff member explained the main problem was a lack of communication”.

Before starting any collective process, it is important to verify whether there is enough sense of urgency, no intractable conflict, and a feeling of interdependency. Otherwise collective learning and decision processes are likely to fail, and create frustrations. The diagnostic survey revealed that there was no sense of urgency with respect to the park issue in Ban Nam Paeng, while in Ban Nam Ki awareness-raising activities could lead to a sense of urgency. Furthermore, there was no apparent intractable conflict with high emotions, but there was neither a feeling of interdependency between the villages. The position of the NP was not clear. The ComMod team decided to give it a try. While working it appeared the ward conflict was more entrenched than anticipated, while the NP director remained reserved to reluctant towards the process. In hindsight, one could question the effectiveness of the diagnostic survey but in a culture of harmony in which people disapprove of overt behaviour and expressions it is very difficult to get a complete picture from a first diagnostic survey.

Selection of participants

The selection of participants is a crucial aspect of the ComMod process, as it determines the perceived legitimacy and efficacy of the approach. ComMod participants need include the natural resources users (representations of the various farmer categories, wards and/or family/clans) and include key responsible as well as informally respected, dynamic people, ready and capable to inform and mobilise co-villagers. To attain and implement collective decisions, the process needs to engage a critical mass of people who support the process outcome. This aspect seemed a bit underestimated. In Nan, the evaluation team met participants of various farm categories, some highly dynamic persons, others very shy, some did not understand what the workshop was about, and various participants were related to each other. The ComMod designer explained that the Ban Nam Paeng village leader interfered with the selection of the participants (refer to Annexe 1, Designer Questionnaire), but in Ban Nam Ki we also met similar problems as in Ban Nam Paeng². In each locality, 3 of the 12 participants were related, which might have influenced the discussion, especially in Ban Nam Ki where people mistrusted each other. It is difficult to conclude anything concerning the dynamism and communication qualities of the participants. In both villages, it was not always clear where the workshops headed for, what issue needed to be discussed with co-villagers; hence people did discuss workshops with friends and relatives but there was no feeling co-villagers needed to be mobilised for something specific. In Ban Nam Paeng only few people turned up at the participatory simulations (organised to inform co-villagers and to create more confidence in the process). In Ban Nam Ki there was tension and mistrust; hence about 50 people turned up and started a lively debate but they did not attain a joint solution. In both villages, there was no self-organisation; villagers waited for further action.

Construction of a conceptual model

² In Ban Nam Paeng, we met a father Loasunhai, with his son Thirawat and his daughter Warapon, all participating in the RPG. In Ban Nam Ki, we met father Joylin, his second wife Muey Salii, and his son/TAO representative Chanchay, all participating in the RPG.

To enable beneficiaries to learn from models, these models need to be perceived as (a) 'relevant and realistic' and (b) 'easy to understand'. The ComMod team was very much aware of this and took great pains to develop simple but relevant RPGs and simulation models. The designer doubted whether it was not best to build to model together in a plenary session with the local actors, but decided not to because powerful actors might have dominated the debate and model construction in their favour. Armed with the information of the diagnostic study, the designer therefore developed a simple RPG about farming 'without' and 'with' stringent park rules, "to validate the designer' constructed conceptual model and further explore stakeholder behaviour and interaction". For the appreciation of the RPG and the simulation models, refer to the specific sections underneath.

Role-Playing Game

Local farmers seemed to easily understand the game. The NP employee had more problems understanding the different features, as she was less familiar with the local situation. Farmers helped her to find her way.

Respondents highly appreciated the Role-Playing Games (RPG), because of the following effects:

Exchange and learning about the issue

- The games enabled villagers to 'feel' and get aware of the issues. Mr. Thirawat (a young male farmer) said that "the game is the best tool to raise the awareness of the people about the issue of forest conservation. Other people should also have a chance to play the same game because it is better for them to feel things in the game by themselves". When he talked to other players about the harvesting practices, they could understand each other easily, while with non-players some thought that he just was speaking for himself.
- The games enabled villagers to exchange information, through their game actions. Ms. Warapon (a young female farmer from Ban Nam Paeng) declared that "in the game, there was opportunity to discuss. By being an example through my behaviour during the game, I can teach other people". Mr. Naraet (a NP ranger) added that "the game is good to learn together".
- Games created some distance from daily life, which enabled them to observe general farm dynamics. Mr. Boonlert (a village leader) found that "Villagers often do not have an overview. The game enables people to get an overview; they see the consequences of actions and get an idea of the overall dynamics and structure".

In general, farmers prefer experiential learning and focus on concrete issues rather than abstract strategic reasoning. Through the game, participants learned about forest regeneration dynamics, but especially about the intended NP forest demarcation (border arable fields, fruit collection rules etc.) and the subsequent effects on their livelihood. Most villagers said they did not know the details of this plan, and only now became aware of the issue.

Learning about each others' situation

After the first ComMod workshop, farmers acknowledged that the game and discussions enabled them to better understand each other's farm strategy, interests in forest products, and consecutive position/reaction within the NP debate. In a later stage, the focus shifted more to the understanding between farmers and NP officials. Several players in the joint workshop in

December 2006, noted that the game created a good atmosphere, communication and mutual understanding. NP employee Ms. Warunee noted that “the game enabled the players to better express their ideas”. Mr. Boonlert (a village chief) agreed and added that “the game is a way to communicate with other people. They may not find the right words when they meet with educated people, but via their actions these people may start to understand what it is all about, how farmers are confronted with and deal with the issue; if there is a willingness to collaborate”.

Plenary discussions

Besides the RPG, farmers highly valued the plenary discussions. After playing the RPG, farmers wanted to discuss new ideas and personal experiences and opinions. More than in Mae Salaep, here farmers are used to discuss experiences and to learn from them. Discussions were mostly used to express the diversity of interests and perspectives, to create more mutual understanding. The first workshops in June enabled people to determine the consequences of possible NP boundaries on their farming activities. Participants appreciated the use of meta-cards (small cards on which people could write their issues of concern, to post them on the blackboard) to prioritize issues-of-concern and facilitate the expression of all the participants. Unfortunately, at the participatory simulations there was little time for discussions and for informing co-villagers. At the last joint workshop with NP officers, plenary discussions were facilitated in such a way that participants focused on the potential of co-management rather than present conflicts. In sub-groups, farmers were invited to explore more specific issues such as the gathering of NTFPs, Park boundary demarcation, forest fires etc., but as the group formation did not match the preoccupations of the participants, these group discussions were less focused and appreciated.

Individual interviews

Farmers did not mention the individual interviews, when discussing the effects of ComMod methods. Researchers however valued the individual interviews, as it enabled them to better understand the behavior of participants during the game and plenary debates, hear non-expressed feelings and opinions, and to support further individual reflection on the topic. Individual open interviews and chats are essential to get an idea about feelings and opinions of people, they will not express, or express differently in public meetings. In Nan, the designer C. Barnaud closely monitored the learning and changes of opinion via individual interviews after the RPG in June 2006, 2 months later in September, after the village visits of the NP director in October, and after the final joint workshop in December. The results of these interviews are in line with those of the interviews carried out for this ADD ComMod evaluation. C. Barnaud noted that the key actors understood what the ComMod process was about and heading for, while others still needed more explanations. This encouraged her to put extra effort in the participatory simulations to inform other villagers and create trust in the ComMod team. The expressed feelings of tension and mistrust motivated her to focus on the first part of the ComMod process (to share knowledge, create mutual understanding and a feeling of a shared goal (= co-responsibility for forest management)), rather than to continue with the second part (exploring and negotiation concrete solutions). This was very essential for success of the process!

Participatory simulations plus long term scenarios of forest management

During the RPGs, a ComMod modeller registered all actions of the players and conceived a basic multi-agent model. In this way, the conceptual model closely followed the stakeholders’

reasoning and action. These basic computer models were used for the informative workshop of NP staff (on 20 September 2006) and the participatory simulations with the villagers on 4-5 November 2006. This procedure enabled participants to see the relation between the games and the simulations. Mr. Joylin put it nicely: “the data from the game were entered in the Agent- Based Model, which simulated real situations to see into the future. The computer “measured the outcomes of the decisions”. Various participants understood the participatory simulations and the longer-term NTFP management scenarios. Several villagers as well as the NP ranger explained to the evaluation team that the simulations were useful to look into the future, to see the negative effects of over-harvesting. The NP employee Ms. Warunee esteemed it useful to ‘conclude’ meetings with such computer simulations showing different forest management options (she perceived computer simulation as being an effective education tool).

The visualizations seem to be clear and convincing. This made the village leader of Ban Nam Paeng afraid that NP officials would use the ‘fictitious bad management scenario’ (that exaggerated the over-harvesting of NTFPs) to blame local villagers and impose stringent park rules. Furthermore, he was convinced that scenarios could help him to show NP officials the village forest management capacities to gain trust and induce more collaboration.

Work more with homogeneous ‘stake’-holder groups

In the last sequence in Mae Salaep, C. Barnaud organized simulation sessions for smaller, more homogeneous groups (two farmer categories). This triggered more debate and participation than the plenary computer simulation sessions. When explicitly including participatory simulations with small homogeneous groups, such as farmer category meetings, participants feel quickly at ease, focus on issues of personal relevance, readily exchange experiences, concerns and doubts, and put more effort in learning (about the ComMod process as well as the issue-at-stake). It enables them to articulate their specific interest and desired future. It prepares them for the plenary sessions. This is especially important for the more poor and illiterate people who are not used to speak in public. More confident and committed, they arrive at the plenary discussion, to confront their concerns, visions and arguments with those of others.

In Ban Nam Ki, the situation was complex: there was a conflict between wards about forest encroachment. In such a case, it is important to also include ward discussions (behind the scenes or in public).

Inclusion of co-villagers to expand the debate

Inclusion of co-villagers may be enhanced by (a) the selection of dynamic, communicative participants and (b) village-level participatory simulations. The ComMod team did not explicitly look for communicative people, but included some key actors who were turned out to be quite dynamic. Furthermore, it is highly appreciated the ComMod team developed and implemented the innovative idea of ‘participatory simulations’, though time was too short (only one evening) to really trigger a village level debate. When using participatory simulations in larger events with more time for follow-up discussions, it may be possible to generate more engagement for ComMod processes at the village level.

Monitoring the village decision making process

When facilitating learning and decision-making processes, it is important to monitor ongoing learning and group-dynamics. Monitoring results enable the facilitator to design next steps in the learning and decision making process. In Nan, the researcher observed and assessed all ComMod sessions, and interviewed participants after the RPG, participatory simulations and the concluding joint workshop (see above at the section ‘interviews’). This allowed her to flexibly adjust process activities. During the evaluation, the evaluation team reflected upon possible additional monitoring and evaluation activities, which would help a ComMod research team to make more use of local knowledge when designing next steps in uncertain and iterative ComMod processes (Refer to the last section about the evaluation).

Networking with higher level decision makers

Authorities are supposed to make their own value judgement (Hoppe, 2005). They do not easily commit themselves to uncertain learning processes, nor automatically adopt policy proposals forwarded by local actors. ComMod researchers, therefore, need to invest in trust relationships with higher-level decision-makers. It is important to understand their reasoning, concerns about the issue, relationships and appropriate decision-making processes and see where and how to inform and involve them. In the case of Nan, the authority was invited to participate in a public ComMod workshop, but did not show up. It may be more fruitful for the research team and the local leaders to regularly brief authorities and politicians with informing, persuasive visuals, stories and simulations. In this way, authorities are able (a) to follow and get used to local learning and decision-making processes; (b) to timely provide stakeholders with information of issues that should be taken into account, and (c) possibly consider process outcomes in their decision-making.

Some concluding remarks

Critical moments

Quels ont été les moments forts de la démarche mise en œuvre dans le cas d'étude que vous avez eu à évaluer ?

- At the first workshop several participants became aware of the NP boundary problem, and the consequences it would have on their livelihoods.
- At the first workshop, Ban Nam Paeng people noted that the ComMod game enabled them to learn more about farm dynamics, profitable choice of crops, and sustainable use of Arenga palm fruits.
- In both villages, the villagers and their leaders appreciated the ComMod collective meetings, recognised the critical importance of NTFP for the livelihood of poorer inhabitants, and learned about the possibility of constructive negotiations. Already at the first workshop, participants showed their appreciation of open village discussions. At the second workshop with the participatory simulations and NTFP simulations, the village leader of Ban Nam Paeng understood that it would be strategic to use ComMod tools to (a) gain understanding for the farmer perspective and (b) demonstrate the capability and willingness of farmers of sustainable NRM. In sum, ComMod successfully introduced a new ‘collective learning and decision making heuristic’, a worthwhile preparation for the ongoing decentralisation (?!).
- After the last joint workshop in December, villagers as well as NP employees noted the game created more mutual understanding and a possible venue to start more intensive communication.

For a detailed chronological description of the activities and the effects, refer to the “canevas” (Annexe 5, short version) and the designer questionnaire (Annexe 4, too much extended version☺).

Robustness of the approach

Pouvez vous apprécier l'efficacité et la robustesse des processus de décision collective qui ont émergé de certaines Etapes ?

Facilitation of a process in which the stakes are high, with people not used to openly discuss issue is very difficult. The ComMod methodology is strong in the exchange of knowledge and experiences (games and simulations coupled with discussions) and visualisation of possible solutions (scenarios assessment), but is less equipped in guiding highly sensitive, politicised and conflicting communications. In Nan, the ComMod researchers used intensive process monitoring coupled with flexible, creative process design to carefully guide the process. Language sometimes posed a problem: when things are sensitive it is important to perfectly speak and understand the language and the phrasing of arguments. This is very difficult to achieve for foreigners. **The presence of a researcher in a local community is too short to adequately support usually slow and unevenly distributed awareness raising and politically sensitive change processes, so in one way or another ComMod needs to link up with local development actors who can provide this backing and a longer time frame for the implementation of such processes.**

Influence of the powerful?

Y a-t-il eu une prise de pouvoir d'un acteur impliqué dans une étape ayant dévié l'objectif initialement poursuivi ?

Right from the start, it was clear that the success of the ComMod process depended on the collaboration of the NP director. At the local level, the ComMod process empowered the ordinary villagers (men and women!) in the village decision making process: it enhanced the distribution of information in the village; enabled farmers with less communication skills to participate in the NP discussion via the game; and increased the communication and accountability of village leaders vis-à-vis villagers in a non-threatening way. Unfortunately, the structure of the process did not help villagers to systematically discuss issues/interests, to create more understanding, overcome disagreement and formulate shared goals. In Ban Nam Ki, convergence of opinion was especially difficult, as some wealthy households refused to participate. They esteemed intimidating tactics were more beneficial to their interests, and their actions deteriorated the negotiation position of the village. Meanwhile, the NP director did not want to get involved in the negotiation process, because such involvement was not appreciated in his ministry and such a process would entail uncertain outcomes. So, the 4-5 wealthy households, and the NP director had a negative influence on the intended democratic process. It is questionable whether another communication methodology could have levelled their negative power.

Risks and opportunities

Quels sont, selon vous les risques et les opportunités aux différentes étapes de la démarche mise en oeuvre ?

Social interventions always bear risks of heightened conflicts, emotions, which need to be handled carefully. In this case, it was clear the process would be a challenge. The idea was that advocacy and negotiation could help local inhabitants, especially the poor, to attain NP agreements, fit to their livelihood needs. The ComMod researchers were very much concerned not to aggravate the situation, as this would sincerely threaten the legitimacy of the

process. Finally, the process led to some first communication and understanding, but did not seem to lead to a more beneficial or detrimental outcome. In fact, actual forest management position of the two villages did not change significantly: the NP director decided upon the demarcation of the forest boundary, based on earlier experiences with the respective villages.

6. Implications for the ComMod Charter

La mise à l'épreuve des hypothèses fondamentales de la charte au travers de l'analyse du cas d'étude évalué (5 pages max.)

ComModians aim at transdisciplinary research, to produce socially robust knowledge about natural resource management (including all kinds of knowledge), with a high scientific and societal relevance. Nowadays, science is called upon to improve its societal relevance, so the ComMod approach is of high interests, and unfortunately still quite rare and original. Procedures and rules of most scientific institutions still stimulate scientists to prioritise disciplinary excellence rather than transdisciplinary research excellence. Transdisciplinary research seems possible under the guidance of an inspiring 'godfather' and/or with methodological convergence (Lengwile, 2006; Smith, 2007). Quality is ensured by new procedures and measurement on a wide set of scientific and societal criteria (Guggenheim, 2006). In line with this trend, Companion modelling was initiated by some enthusiastic scientists and is now about to mature: various scientists subscribed the epistemological principles of the ComMod Charter and adhere to the so-called ComMod approach. The present ADD evaluation enables ComModians to formulate research quality criteria and assessment procedures to enhance quality of the research efforts. In the context of the evaluation of this case study, we hereby provide our reflection on the ComMod principles and practice, and about its replicability.

6.1. The post-modern paradigm

The evaluation in Nan demonstrated a strong commitment of the ComMod researchers to the philosophy of post-modernism. They constructed the conceptual model iteratively: the first basic RPG model was designed after village interviews; actual game behaviour was incorporated in the subsequent (hybrid) computer simulation models, and at every occasion farmers were asked to critique the model. Researchers were eager to adapt the conceptual models to improve their relevance and usefulness.

Post-modernism highlights the relative position of actors as well as their constructed knowledge and objectives. The philosophy of post-modernism stresses cultural pluralism, moral relativity, and multiple realities. It values democratic engagement of stakeholders in obtaining and interpreting results. In accordance with this philosophy ComMod aims to enrich the local learning and decision-making process rather than to attain certain predefined normative outcomes. "All assumptions underlying the modelling are destined to be discarded after each interaction in the field". However there is a concern that (a) multi-stakeholder, interpretive approaches concentrate too heavily on processes, and too little on the outcome; (b) interpretive process do not adequately deal with distorting power influences and marginalised interests (this may be the interest of the poor or an ignored public interest such as sustainability etc.). In a recent article (Collectif ComMod, in press?), ComMod scientists wonder what to do when the process evolves in a direction, they perceive to lead to non-ecological sustainable, non-equitable, or non-productive outcomes. It may be an option to adopt a more critical stance, inspired by Critical Theory and/or Critical System Thinking.

Critical system thinking embraces the constructivist epistemology but opts for critical theory. Critique is an integral part of the research process. Critical researchers do not take the apparent social organisation and structure of phenomena for granted; they are committed to social awareness and human emancipation, discovery of hidden assumptions and conceptual traps, and the pluralistic application of system approaches (Jackson, 2000). Ulrich developed 12 boundary questions in the 'is' and 'ought' mode that form the foundation of Critical Systems Heuristics (for details refer to Annexe 5, Midgley). When ComMod scientists favour empowerment of the resource-poor to attain a decent livelihood, but consider it unproductive to be explicit about this issue, they might opt for oblique use of critical system thinking' (Flood & Romm, 1995): oblique use of critical system thinking allows the use of interactive approaches, while implicitly steering towards emancipation and ecological sustainability.

It seems that the actual ADD ComMod Project evaluation exercise already opts for this critical approach. Unlike post-modern evaluation approaches such as the Fourth Generation Evaluation and Responsive evaluation, the ADD ComMod Project evaluation is not limited to the appreciation of the beneficiaries, but simultaneously inquires about the concrete effect of the ComMod methods, the influence of power relations on the attained results, the fit/legitimacy of the ComMod approach in a certain societal context, and the appropriateness of the ComMod charter. This is more or less in line with the four levels of critical evaluation, as developed by Fischer (1995): technical verification of the attainment of goals (process and outcome goals); situational validation (are the goals relevant to solve the problem?); societal justification (does the goal fit the local societal arrangements?); and ideological choice (in what society do we want to live?).

6.2. The ComMod approach

Pertinence of the preliminary research

Too often, technical scientists start modelling without proper consultation of the stakeholders, while social scientists loose themselves in social research before starting any action. ComMod reconciles technical and social scientists, as it opts for 'learning while doing'. However, it remains essential to acquire preliminary knowledge about the situation, before starting any intervention. In some cases, ComMod scientists work within a cultural, political context familiar to them. But in foreign situations, some preliminary research is needed to ensure oneself not to dive into an intractable conflict or irresolvable problem. A preliminary study enables the ComMod designers to assess whether it is opportune and legitimate to start an intervention, and if so, to determine the optimal structure of the process and selection of participants.

Commod strong for socially robust knowledge production

The ComMod approach is quite original. Most natural resource modelling approaches generate technical-economic optimum situations or extrapolate trends to give clear-cut advice rather than to support stakeholders' problem-formulation and problem-solving. This is an important strong point as governments increasingly value socially robust knowledge, knowledge emerging from interaction between scientists and local stakeholders (Jasanoff, 2004), rather than to rely on sole scientific judgement. ComMod has another function than other modelling approaches. It creates mutual understanding, and policy makers are inclined to consider citizen's situation and reasoning.

Scenarios provide 'binding story-lines'

According to the charter, Multi-Agent Systems (MAS) modelling is a crucial element of the ComMod approach. In contexts such as Nan, the RPG (as well as the participatory simulations) enabled participants to explore their situation and interest. The computer scenarios were powerful in demonstrating the longer term, public dimension of forest management. It showed the possibilities of farmer-led sustainable forest management; an important notion (so-called 'binding story-line') that might persuade villagers and higher-level decision makers to consider co-management.

Aim is socially robust policy advice or participatory democracy?

When natural resource management issues are decided upon at higher policy levels, the role of ComMod becomes more complex. Policy makers have no time to join learning processes and cannot / do not want to delegate decision-making authority to local stakeholders or scientists. Policy-making is not just about problem solving; each unique issue triggers specific dynamics of politics and policymaking. Policy-makers, scientists and citizens play different roles and have different ideas about the ideal collaboration (Hoppe, 2005). Policy-makers expect policy advisers to clarify/structure the problem, to identify policy options related to various political perspectives, and their consequences for respective stakeholders. Hirschmüller et al (2001) note that participatory approaches of Integrated Environmental Assessments (IAE) help to structure wicked problems in a socially robust way. Furthermore, it enables stakeholders to express their preferences, interests and concerns with respect to various scenarios. According to Hirschmüller *et al*, participatory IEA should stop here, as its final aim is to show divergence and leave final decision making to (political) authorities. Scientists need to remain neutral, objective knowledge providers.

According to the charter, ComModians may opt for Hirschmüller's approach (prioritise the generation of socially robust knowledge), or go one step further: to support negotiation and convergence for decision-making, identifying shared environment and social equity assessment indicators. This latter option requires great political skill and convincing story lines. ComMod deliberations and the shared definition of environmental and social assessment indicators provide the necessary 'socially robust', convincing story lines and concepts.

Participatory democracy requires more care for communication process

Knowledge exchange with workshop participants (a representative but limited number of stakeholders), does not automatically lead to better collective decision-making. Careful networking, creation of trust, tackling of disturbing issues (such as dividing conflicts), and engagement of a critical mass are crucial to attain balanced, joint decision making. These aspects need more consideration. Firstly, the present ComMod tools need to be embedded in a carefully designed facilitation process. Secondly, these conditions are difficult to create by scientists with limited facilitation experience and short periods of fieldwork. To remedy this situation, ComModians may opt for long term, intensive engagement in a process, or need to link up with local government and/or development organisations that take care of the facilitation.

ComMod strength is learning and knowledge generation, but the present ComMod cycle is too short to really mobilise villagers for collective action. Only in an ongoing process, when people already have a high sense of urgency, ComMod workshops lead to collective action

(e.g. in Lingmuteychu watershed, Bhutan). "To attain a real change, to solve a problem, you need more follow-up. You need to go back." said Mae Salaep case collaborating researcher Dr. Benchaphun Ekasingh. More communication and negotiation (methods) are needed to expand the debate in the village, build relationships with local decision-makers, and enforce agreement and action. This is especially true in a Thai context, where top-down decision-making still prevails. In such a context ComMod aspirations should be modest. ComMod projects serve as first appetisers for future decentralisation.

6.3. Replicability

ComMod has a dual aim: to generate socially robust knowledge (*transdisciplinary research*), and to support (collective) learning and decision-making (*development work*). The replicability of the ComMod transdisciplinary research depends on the availability of (a) a satisfying methodology, and (b) trained researchers. The replicability of the ComMod development work depends on the exchange and collaboration with professional development workers. The chances for replicability improve when more people get to know and appreciate the ComMod approach.

Transdisciplinary research

So far, ComMod scientists primarily work within the scientific community. There is a CIRAD team with ComMod expertise, based at the department of Biology, Chulalongkorn University in Bangkok. They established relationships with various universities in Thailand and other neighbouring countries, promoting the ComMod approach where possible. At this moment the team collaborates with ComMod researchers in Bhutan and Vietnam, and trains seven PhD students in the ComMod approach (one French, four Thais, one Vietnamese and one Bhutanese student). PhD students enable the ComMod team to adapt the ComMod approach to the Asian context, to further develop the ComMod approach, and multiply the number researchers/university lecturers knowledgeable about ComMod. Unfortunately the group of PhD students is still restrained; students have a background in biological/agronomy and modelling rather than communication; and several students find it hard to conceive conceptual models. To establish a solid base of ComMod researchers in Asia, more PhD students are needed, especially students with a social science background, interested to further develop the communication and negotiation part of the approach. To ensure replicability of ComMod research, one should strive for redundancy as most university researcher become highly involved in education, and may opt for research interests outside the ComMod domain.

Development work

The present ComMod approach is able to trigger learning, the exchange of knowledge and debate on management issues at the local level. In Nan, the RPGs and discussions were seen as the most effective methods of ComMod. Some additional thought is needed for the processes design; how to structure group discussions to get an optimal impact. The support of computer scenarios is appreciated, but even without this tool the ComMod approach remains useful for local development work. So far, the contact with local development officers remains very limited. Contact and collaboration with these officers not only ensures local ownership and replicability, but it may also help researchers to reinforce the facilitation work.

There are some activities that help to attain interested development collaborators:

- In 2004, the CIRAD team in Bangkok started the Ecole ComMod project, with the objective to build a website to inform scientists and development workers about ComMod activities, and to provide opportunities for on-line learning about ComMod. In 2006, the website was launched and will be 100% functional at the end of 2007. This website is a major effort to inform people about ComMod activities. More and more people browse on the Internet, and may find the ComMod website.
- By training PhDs, ComMod trains envisaged university lecturers, who will educate future government and NGO officers and natural resource managers. The decentralisation process will proceed, and they may be able to implement participatory bottom-up processes.

These activities surely help, but more direct contact with local officers is needed to reinforce the embeddedness and replicability of the ComMod approach in Asia.

7. Recommendations for future Monitoring & Evaluation

De l'intérêt du protocole et de l'amélioration de la méthode d'évaluation (5 pages max)

Practical considerations

- A preliminary classification of the ADD case studies to be evaluated showing which ones could be compared to which ones would have allowed to better tailor the evaluation methodology to be used for each category and possibly helped in the comparison of their respective results.
- A less time-consuming (and therefore less expensive) evaluation methodology. The completion of the designer questionnaire was far too time consuming. Furthermore, the redundancy between what was asked in the “canevas” (under task 2) and again in the designer questionnaire could have been avoided.
- The Protocol of Canberra did not function as a guide for the evaluation work. It provided some insight in the fieldwork, but not in the kind of data to look for. The Evaluation guide of Pascal Perez and Sigrid Aubert was more clarifying.
- The Designer Questionnaire followed the phases of the Integrated Environmental Assessments (IEA) as identified by Hirschmüller *et al* (2001). Hirschmüller *et al.* advocates participatory IEA exploring divergence to objectively inform high-level policy makers, rather than multilevel/collective learning, negotiation and decision-making, as aspired by (some? A majority?) ComModians.

Considerations concerning the focus of the evaluation

- The Evaluation guide focussed much on one side of the ComMod ambitions: the support of collective decision making. The scientific challenge to generate robust knowledge and understanding of complex issues was somewhat ignored. The Designer Questionnaire did not include questions specifically related to scientific learning. Objectives and activities related to this scientific learning had to be included in the parts dedicated to ‘stakeholder learning’, which was confusing.
- When executing the evaluation we realised that we were evaluating the local impact of the ComMod approach, while the CIRAD activities in Thailand’s prime objective was to provide training opportunities for (Asian) PhD scientists. This is a laudable aspect, as ComMod is one of the rare scientific approaches that provide practical guidance for scientists who want to get engaged in trans-disciplinary research. However, at times,

the training of PhD scientists demands different activities and priorities, and may be detrimental to the support of local learning and decision-making processes. This is important to realise, when evaluating the local impact of ComMod project teams.

While implementing the ADD ComMod Project evaluation, we reflected upon the ideal monitoring and evaluation method for ComMod projects that aim to support (collective) learning and decision-making. As mentioned in paragraph 4.2, people tend to follow the argumentation and decisions of the leaders they are related-to or depend-on, except when they are convinced of another opinion and/ or feel the decision seriously threatens their livelihood. When they feel there is an issue-at-stake, people take the effort to learn about the details, develop and defend their personal opinion. Therefore, when facilitating collective learning and decision-making processes, it is essential to start with a preliminary stakeholder study, and closely monitor changes in opinion, underlying reasons and levels of engagements. This enables research/facilitators to adequately support the process and learn about the effectiveness of methods applied. Some practical tips:

- A preliminary stakeholder analysis is needed to explore the issue-at-stake, experienced consequences, concerns, hopes and ordinary problem-solving processes. ComMod scientists should verify the sense of urgency, sense of interdependence and conflict, to check whether the implementation of a ComMod approach would be fruitful. These data will serve as a base-line study.
- Villagers actively discuss issues related to the workshop for about 3-4 weeks; hence the optimum time to start the interviews is about 3-4 weeks after the concrete workshop event. Participants as well as some non-participants need to be interviewed to get an idea about the different levels of information, interest and engagement. This may be done via individual interviews, but focus group discussions enable the researcher to include more people in the process.
- The focus group discussions should not be limited to (a) the monitoring of learning, engagement and preferred solutions, but also (b) stimulate reflection on the ongoing learning and communication process and (c) mobilisation of stakeholders for next process activities. It is important for them to consider issues such as: How to inform co-villagers? How to persuade and mobilise own peers/constituency? How to approach opposing parties? How to commit and persuade key-decision makers? When various farmer categories, actively think about and act upon these issues, there is more ownership and real chance a village level discussion will emerge.
- Focus groups discussions need to alternate with plenary/village discussions (in time steps of about 3 weeks), to monitor progress (use PRA tools) and to stimulate further information sharing, mutual understanding and negotiationtill final agreements are made. Depending on the process, the facilitator organises complementary activities to further stimulate the learning and decision-making.

Apart from the monitoring, ComMod researchers need to regularly reflect upon his/her activities and stance. Monitoring helps to evaluate the achievement of process and outcome goals, but one should also ask oneself whether these were the goals to attain; whether the goal and process fit the local societal arrangement; what he/she as ComModian stands for (Fischer, 1995). Critical heuristic questions may help to evaluate one's actions (Annexe 6).

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