



**NEGOTIATE Toolkit:
Case Studies**



Using Companion Modeling to level the playing field and influence more equitable water allocation in northern Thailand

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1. Background

Mae Salaep is a community of the Akha ethnic group located in a highland catchment of Chiang Rai Province in upper northern Thailand. In a context of expansion of irrigated litchi and Oolong tea plantations in the village catchment, the villagers requested to address the problem of irrigation water scarcity in dry season. More and more social tensions occurred within the community as only a minority of relatively well-off farmers had access to water to irrigate their plantations. This was due to the “first arrived first served rule” which stipulated that once a farmer had set up water pipes in a creek, other villagers could not get water from the upstream section.

Four main actors or groups of actors had an interest in this issue:

- The well-off farmers belonging to influential clans of first settlers and having large irrigated plantations; they had interest in a status quo regarding the rules of access to water, but were potentially interested in the building of new water infrastructure;
- The poorest farmers belonging to more recently immigrated and less influential clans, with no access to water; because of their relation of dependence with the powerful clans and their sense of belonging to the community, they did not dare to put into question a rule considered as an ancestral one;
- The recently established TAO (sub-district administration) having financial resources to fund local projects such as the construction of small-scale water infrastructure; one of the two TAO village representatives was a well-off farmer commonly accused by other villagers of taking advantage of his position to serve his own or his clan’s interests. Planning to establish a large irrigated Oolong tea plantation, he had a strong personal interest in the water issue.
- The religious leader of the Christian community, a well-off farmer, respected both as religious leader and as a knowledgeable leading innovator, who actively promoted equity by supporting households facing difficulties; he was the first one who suggested to the research team to address the problem of unequal access to water.

2. The negotiation approach

The Companion Modelling (ComMod) approach aimed at stimulating collective learning and negotiation about water management among villagers, and between villagers and their TAO. This ComMod process combined individual interviews, group & plenary debates, role-playing games (RPG) and agent-based models (ABM^{iv}). The main objective was to jointly build simulation models (ABM and RPG) integrating the different stakeholders’ points of view, and to use them to collectively explore and discuss various scenarios for the future. We assumed that without specific attention to

power issues, there was a high risk that the process would deepen existing social inequities. Power relations were therefore analyzed and addressed prior to and during the ComMod process.

The first gaming session highlighted the water problem and increased the villagers' awareness of the necessity to solve it collectively. Indeed, as the villagers played in ways similar to how they behave in reality, the problem of unequal access to water became obvious to all. The non-threatening playful mode of interaction facilitated exchanges of perceptions on this problem and discussions about possible solutions. The TAO representative first suggested building a large reservoir above the village, but the other participants rejected this suggestion as it would benefit only a minority of farmers. The religious leader then suggested building small weirs on several creeks and sharing of water within small user groups. He knew that it was impossible to question directly the "first arrived first served" rule because well-off clans would have not accepted it. Therefore, instead of bargaining over the way "to share the cake", he subtly suggested a way to "increase the cake", creating a more win-win situation. The participants agreed with his suggestion and tested it in a second gaming session. This stimulated lively discussion about the rules for the allocation of water within the user groups, so the participants further investigated this issue during sessions of participatory ABM simulations. Two different rules were suggested, simulated and discussed. The TAO representative first suggested that water should be allocated proportionally to the size of farmers' plantations, i.e. a rule favouring the well-off farmers. But during the following sessions of simulations three weeks later, the villagers – who had continued to discuss among themselves in the interim- collectively suggested to allocate the same amount of water to each beneficiary of the weir. Those receiving a surplus of water being able to sell it to larger holdings with higher needs for the scarce resource.

A few months later, the TAO representative and the religious leader collaborated to design a project based on the discussions triggered by the ComMod process which took into account the interests of the less powerful villagers with no access to water. The TAO president said their administration was currently lacking money, but the villagers are still looking for the funds to implement their project.

3. Lessons learned

The main lesson drawn from this experiment is the necessity to address power relations prior to and during a participatory process, especially in a context of high social inequities. The most powerful stakeholders used various forms of power to try to influence the course of the process. However, the interests of the less powerful stakeholders were progressively taken into account thanks to a process of empowerment of these stakeholders: personal empowerment through increased self-confidence and capacity to participate in local debates, and collective empowerment through the creation of alliances among them.

The methodological features which helped to level the playing field in this process were:

- the careful selection of participants based on a previous stakeholders analysis;
- the co-construction and use of tools that were within the reach of everyone;
- the use of models highlighting differences among people;
- to move beyond the first apparent consensus as they often reflected the opinion of the most powerful actors;
- to let people express themselves during individual interviews in addition to group debates; and
- the continual and iterative nature of the process to accompany the evolution of exchanges taking place behind the scene.

For more information on this case study contact cecilebarnaud@yahoo.fr, and visit the following websites: <http://www.cpwf25.sc.chula.ac.th>; <http://www.ecole-commod.sc.chula.ac.th>; <http://www.commod.org>.

See also the following papers:

Barnaud C., Promburom T., Trébuil G. and F. Bousquet. 2007. An evolving simulation/gaming process to facilitate adaptive watershed management in northern mountainous Thailand. In *Simulation Gaming Journal*, May 2007 0: 1046878107300670.

Barnaud C., Van Paassen A., Trébuil G., and T. Promburom. 2006. Power relations and participatory water management: lessons from a companion modelling experiment in northern Thailand. Communication for the international forum of the CGIAR Challenge Program on Water & Food, 12-17 November 2006, Vientiane, Laos.

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^{iv} ABM belong to the field of Distributed Artificial Intelligence and are appropriate to examine complex renewable resource management problems because they focus on interactions among heterogeneous social agents and between these agents and their common environment