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Process, Property And Patrons:
Land Reform In Upland Thai Catchments

ROGER ATTWATER

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Roger Attwater is a Research Associate of the Centre for Research in Healthy Futures, at the University of Western Sydney, Hawkesbury. This paper is based on research undertaken for his PhD at the Centre for Resource and Environmental Studies (CRES), at the Australian National University.

He can be contacted at: School of Applied and Environmental Sciences, University of Western Sydney, Hawkesbury, Richmind NSW 2753, Australia. E-mail: r.attwater@uws.edu.au

EXECUTIVE SUMMARY

Where common pool resources are important elements of local livelihoods, getting the processes right for management is essential for sustainable development. In these situations, and where a range of organisations and individuals have claims to these resources, property entitlements need to be developed through a process which is socially and ecologically appropriate.

An example is given in the upland areas of Thailand, where the government is currently promoting land reform. Whilst land reform is important, the nature of common pool resources means that simply securing land tenure is not enough. It is the ability of upland communities to develop collective and collaborative activities with a range of government and commercial stakeholders which will ensure enduring and robust entitlements to land and resources.

In this context, therefore, the author provides a three-way framework for processes to improve management in upland areas:

- considering environmental impacts and sustainability through catchment processes;
- promoting integrated planning through participatory learning processes; and
- developing property entitlements and economic activity through adaptive and culturally specific processes.

As shown in this case study from Thailand, soft systems methodology is one participatory approach to inquiry which can identify and develop partnerships for specifying and building property entitlements. This approach allows stakeholders' interests to be translated into entitlements through partnerships which are legitimate in terms of value to local livelihood, bureaucratic objectives and protocols, and the broader cultural norms for social interaction. The process consists of working with distinct stakeholder groups to draw out and build upon differing perceptions of problems, and developing models which represent potential solutions and opportunities. By presenting these models back to the stakeholders involved, a dialogue can be generated which will help to define desirable changes, suggest new ideas and change perceptions.

A number of collaborative actions have developed as a result, and include local collective management of a water supply; partnerships relating to elements of conservation and production within the local agroecosystems; and socially legitimate patronage to support formal protocols of land reform. The success of these collaborative arrangements lies in the fact that entitlements and management were developed within existing social and bureaucratic conventions. Furthermore, property entitlements developed through this type of process are more likely to be robust, as they have evolved within socially legitimate conventions for participation and interaction between stakeholders.North and South, where natural resource management is being devolved to the 'community'.

PROCESS, PROPERTY AND PATRONS: LAND REFORM IN UPLAND THAI CATCHMENTS

Roger Attwater

Introduction

In areas such as upland catchments, getting the processes right for management and property entitlements is essential for sustainable development. The common-pool[1] nature of upland catchments, and the related agroecosystem properties supporting local livelihoods, mean that processes to identify collective and collaborative forms of property entitlements are necessary; preferably co-management which can support local decision-making and institution building (Cousins, 1995). Land tenure alone is necessary but insufficient, and state-owned land often lapses into open-access.

The Thai government is currently promoting land reform in the country's upland areas. Land reform can support the development of local agricultural and financial infrastructure, and there are currently formal moves to decentralise resource management. However, while land tenure would improve access to credit, it could also lead to land grabs by local elite. The ability of upland communities to develop collective and collaborative activities with a range of government and commercial interests is therefore necessary.

This paper presents a case study of an upland catchment in Thailand which is currently undergoing land reform. It describes how soft systems methodology can identify and stimulate collaborative property arrangements between villagers, government agencies and commercial interests. A number of collaborative actions have developed as a result, and include local collective management of a water supply; partnerships relating to elements of conservation and production within the local agroecosystems; and socially legitimate patronage to support formal protocols of land reform. The success of these collaborative arrangements lies partly in the fact that entitlements and management were developed within existing social and bureaucratic conventions.

Property regimes and catchment complexes

In seeking a unit of focus which allows for the integration of socio-economic and environmental factors, catchment or watershed units are becoming more widely accepted.

1. Common pool resources are those for which both the origin of the resource and the flow of resource units are shared. The classic example is water – generated in the uplands by catchment processes, and flowing downstream to be captured by others through water harvesting and irrigation

Experiences of participatory catchment management around the world reflect a growing number of applications of participatory processes of inquiry within local catchment contexts. A common theme is that of involving communities in the analysis of their own soil and water problems, with facilitatory and catalytic external support (Hinchcliffe et al 1995).

As well as landscape patterns, catchment areas encompass a range of tenurial and property regimes. They are thus a microcosm of the cultural and institutional environment and its history. Catchments are nested arrangements, so that local processes and interdependencies may be representative of the institutional environment, while being contextually specific to local livelihood systems.

Catchment areas can be considered as a 'lens' between the broader political economy and local livelihoods. In this way, both the historical and contemporary forces of the political economy, and local adaptive organisational and livelihood strategies, can be incorporated in seeking appropriate property arrangements (Attwater, 1996). This paper explores the idea that the social and ecological complexity of property regimes requires a more process-oriented conception of property. This process is the way that interests are expressed as claims, and transformed into legitimate entitlements. The complexity of rural development can then be approached through three routes:

- considering environmental impacts and sustainability through catchment processes;
- promoting integrated planning through participatory learning processes; and
- developing property entitlements and economic activity through adaptive and culturally specific processes.

Process and Property

Property is not the same as ownership, though both Western legal and neoclassical economic thought, and common usage have tended to mix the use of these terms. Property is a three-way relationship between the holder of property entitlements, the particular resource complex, and the collective, state, or social norm which gives legitimacy to the entitlements (Figure 1). The property entitlements, vested in the individual, common group, or the state, give rights to a stream of benefits and associated duties. 'Open access' is where no secure claims or duties are established.

Where there is a range of stakeholders operating in a particular area, all with different management duties and goals, there is a need to approach claims and entitlements through processes which are sensitive to local culture and social norms.

As shown in this case study from Thailand, soft systems methodology is one participatory inquiry approach which can identify and develop partnerships for specifying and building property entitlements. This approach allows stakeholders' interests to be translated into entitlements through partnerships which are legitimate in terms of value to local livelihood, bureaucratic objectives and protocols, and the broader cultural norms for social interaction.

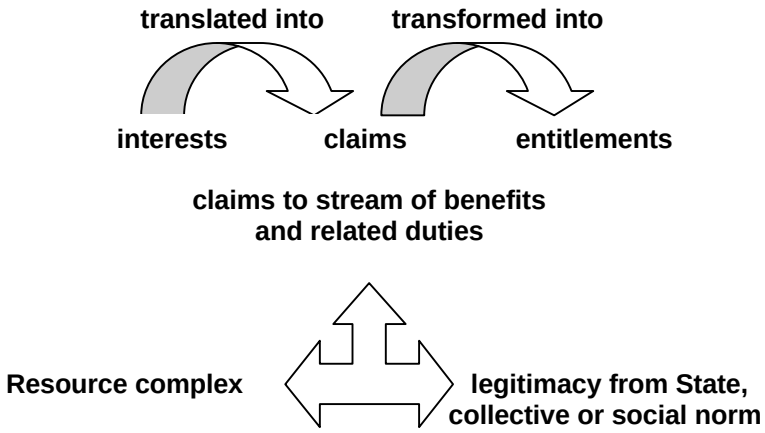


Figure 1. Process and elements of property entitlement (after Bromley 1989)

The social and ecological context of property

If the property entitlements are to be locally appropriate, it is also crucial to recognise the social and ecological context of property (Box 1). Both the characteristics of the catchment resources and the institutional environment influence the organisational structures and property entitlements which can be applied. In the Thai example developed here, the social context of patron-client relationships has a major impact on the way property entitlements need to be established (Box 2).

These property rulegimes are integral to access to factors of livelihood and production, and are. These property regimes are also vital for the appropriation and allocation of water resources, and the protection and rehabilitation of upland catchments. The political, social and economic linkages between upland communities, institutional rules and organisational networks are fundamental to supporting legitimate action.

In upland catchment situations, the ecological context includes common-pool resources. With common-pool resources there is the need to differentiate between the system which generates the resource (eg. catchment processes and water harvesting), and the flow of usable resource units (eg. water resources). In these upland catchments it is not just property in land, nor just the allocation of rights to the flow of water resources which are important. Property institutions for the management of water harvesting are also critical. This is due to the importance of these upland agroecosystems in generating benefits which support both local livelihoods and downstream stakeholders through water flow.

Box 1. The Social and Ecological Context of Property

For property regimes to be effective, some general principles must be adhered to, such as the congruence of ecosystem and governance boundaries; representation of interests; matching governance structures to ecosystem characteristics; containment of transaction costs; and processes of monitoring, enforcement and adaptation at the appropriate scale.

However, while general principles are important, property regimes must also reflect the specific social and ecological context. Characteristics of the social context include social arrangements; cultural practices; economic uses; and political constraints. Ecological contexts include the structural and functional properties of the ecosystems in which people live. Success and sustainability will be determined by the match between a property rights regime and the contextual characteristics of the affected people's lives and the ecosystems within which they operate (Hanna and Munasinghe 1995).

Land reform in Upland Thai Catchments

In Thailand, political motives and the changing balance of power, the expansion of commercial agriculture, and state-led exploitation of forest resources, have resulted in the migration of perhaps a million households into marginal upland areas. In marginal and degraded upland areas across Thailand, the State is promoting land reform where logging concessions were previously held. These are currently within conservation zones. However, the appropriate forms of tenure, access to credit, and support for physical and agricultural infrastructure are complex.

Tenure is Not Enough: Conditions for Securing livelihoods

During this process of land reform, one of the major areas of discussion has been the form of use rights which should be provided to farmers; whether usufruct rights or full tenure. A major drawback of usufruct rights is that they are insufficient as collateral for loans with commercial financial institutions and therefore are a major limitation to access to credit. Full ownership (for squatters as well as others) is the best way to improve social welfare, as usufruct rights will neither provide effective motivation for farm productivity nor reduce forest encroachment (Feder et al., 1988). It is also important to ensure that the size of the land holding is enough to sustain productivity adequately (CUSRI, 1987).

However, while tenure is necessary for access to institutional credit, it is still not sufficient for providing security of livelihood, especially where resources need to be managed collectively. Individual tenure alone is not sufficient to motivate the development of collective resources, and may leave householders susceptible to local land grabs. The maintenance of sufficient household income will also require a diversification of sources of income, and practices to maintain soil productivity.

Box 2. Patrons, property and participation in Thai political economy

One example of a traditional form of patron-client relationship was the *sakdina* system, a hierarchical ranking system within Thai culture which defined the allocation and control of land and labour. The name *sakdina* itself may have meant 'power over rice fields' (Terwiel, 1984). This system formed the basis of relationships of property and status until sweeping changes were made by King Chulalongkorn at the end of the 19th century. Property rights to land began to be estalished during the mid-19th century when usufruct rights and land titling were established. During 1892, a more comprehensive land classification was established, and in 1901 cadastral surveys and central land record offices were established (Feeny, 1982). However, the hierarchical relationships inherent in the pre-colonial *sakdina* system is still an enduring social institution in Thai culture. Despite increasing exposure to external influences, core behavioural values remain deeply entrenched, and Thai culture remains strongly patrimonial, as reflected in the usefulness of patron-client relationships as a way of conceptualising relationships within the comptemporary political economy.

Within Thai patron-client relationships, moral obligation in reciprocal behaviour (*bun khun*) is important, as is the importance of maintaining harmony through the avoidance of conflict and face-saving behaviour (*kreng jai*). Centre-periphery relationships and lines of communication between Bangkok and provincial agencies, the path of modernisation and political development, social mobility, and interpersonal relationships at all levels of Thai society are strongly influenced by this social institution (Girling, 1981; Gohlert, 1991). The existence of patron-client relationships at all levels of Thai social organisation has a major impact on the application of western ideals of democratic representation and prticipation. Critiques and debate as to participatory development have included tensions between State and local powers (Turton, 1987; Hirsch, 1990), and 'grass-roots' strategies and the 'community culture' approach followed by many Thai NGOs (Rigg, 1991; Hewison, 1993). Both State and NGO approaches have tended to build upon traditional organisation concepts, such as that of klum or group, though defined quite differently depending upon the worldviews underlying these development strategies (Hirsch, 1990). The strategy of building upon established instirutions and organisations has been a common conclusion, seeking to build local capacities and self-reliance within the conptemporary political economy. This has been particularly in the case of land reform in marginal and degraded uplands (CUSRI, 1987; Hirsch, 1990).

Institutional Integration in Upland Catchments

Poor co-ordination and integration between the many, and often competing, agencies operating in upland catchments is a major obstacle (Onchan, 1990). There already exists a whole suite of overlapping and competing claims to property in these upland catchments, with approximately a dozen government agencies whose responsibilities include upland catchment management to some degree. The major responsibility is vested in the Royal Forestry Department, who delineates zones and classifies watersheds by topography (Chunkao, 1985). The Agricultural Land Reform Office (ALRO) can establish land reform areas in degraded forest reserve areas given the approval of the Royal Forestry Department and the Minister for Agriculture. Under the control of the Agricultural Land Reform Office, usufruct rights (*SorPorKor* 4.01) are issued, and after a certain period of time land titles can be granted.

The future management and protection of upland areas, and related catchment properties, lies in the ability of government representatives and these upland communities to develop integrated, collaborative solutions which promote sustainable livelihoods.

A number of changes are currently occurring in the formal institutional arrangements. Recently, there have been two possible forms of water legislation proposed. Both these proposals include basin and sub-basin committees to oversee water allocation, co-ordinate government agencies, and draw on user groups for the management and allocation of water resources (Anon. 1994). The establishment of these committees may allow an integration of concerns for the appropriation and allocation of water resources.

Another important recent change is the formal recognition given to sub-district (*Tambon*) councils to be responsible for their local natural resources and environment. This is an important step in the decentralisation of resource management. However, other conditions are necessary for effective local management, including the need to derive mutual economic benefits, and the need for further recognition of rules established by the local community (Pantasen, 1994).

Soft systems Methodology in Khlong Nam Thin Catchment

The catchment area of Khlong Nam Thin, in Phetchabun Province, reflects the range of use rights, the multitude of organisations operating, and the dynamic changes in zoning arrangements currently occurring in upland areas. In 1993-94 I used soft systems methodology (Box 3) to help identify mutually beneficial improvements in management and integration between village, government and commercial stakeholders.

Bordering the Phetchabun Ranges, the upland villages in the case study area were only established following the provision of road access for a logging concession in the mid-1960s. During the early 1970s villagers from the north-east migrated into the area to plant cash crops of maize, subsequently abandoning most of the upland fields when the soil nutrients became depleted. Approximately half the current households have no form of legal tenure, and access to lowland paddy for growing rice for household consumption is limited. Household livelihood relies upon income from cash crops, cattle and small livestock, heavily supplemented by seasonal or semi-permanent labour in Bangkok.

While the lower region of the study catchment has been established as freehold, the upper catchment area is still listed as a conservation zone (Figure 2). The lower land around the upper settlement areas of Khao Kart, and the less steep eastern catchment area will be rezoned to an economic forest zone. This economic zone will then be accessible for the establishment of a land reform zone with responsibility vested in the Agricultural Land Reform Office (ALRO).

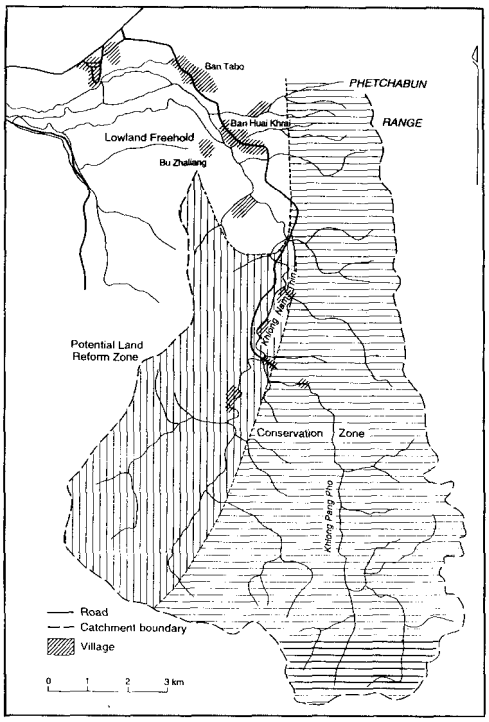


Figure 2. Potential land reform and conservation zones.

Each of these zoning arrangements have their own form of land or use rights, all under the authority of a range of agencies (Table 1).

The establishment of a land reform zone will mean that an alternative form of use right will be created (SorPorKor 4-01). A potential problem with the establishment of these rights is that other previous forms of usufruct rights, such as the SorTorKor 1 will become invalid. Villagers who have informally bought land, with either use rights (SorTorKor 1) or land tax receipts (PorBorTor 5), will be unable to claim any compensation. A question also arises as to the allocation of land reform use rights in relation to established houses and gardens. Freehold land with title (NorSor 3) can be legally traded, with the only requirement being that Lands Department procedures be followed.

Table 1. Land use zone and form of land rights

Zone	Land right	Description	Authority
Freehold	NorSor 3	Land title	Dept. Lands
Conservation	SorTorKor 1	Usufruct right	Royal Forestry Dept.
Land reform	SorPorKor 4.01	Usufruct right	Agricultural Land Reform Office

Exploring Problems and Opportunities with Local Stakeholders

The traditional patron-client relationships (Box 2) had a fundamental influence on the interaction and participation of both myself and local stakeholders in the inquiry process. My initial introduction in the field site required time for establishment via a chain of introduction from research patrons in Bangkok down to regional agency and NGO staff, and then to local village leaders. Once established and living with the family of a local villager leader, my inquiry followed the same pattern, talking first with village leaders, then with village councils, then public meetings with villagers and informal, semi-structured interviews with villagers at home. In this way I attempted to establish myself, and the dialogue between other stakeholders, in a web of relationships of patrons.

Box 3. Soft systems methodology

Participatory methods of inquiry include the application of 'soft' systems of learning and action research. In these methodologies, the researcher is not just an observer and collector of information, but is also a catalyst or facilitator, and provides opportunities for communication (eg. Scoones and Thompson 1994). This approach builds upon the 'hard' systems approach of systematic description, incorporating 'soft' systems of inquiry about stakeholders' perceptions and problems, and identifying appropriate action.

Through soft systems methodology, differing perceptions of problems are drawn out and built upon, resulting in a number of models or suggestions for potential action. These models differ according to the different viewpoints which contributed to them. By presenting them back to the stakeholders involved, a dialogue can be generated which will help to define desirable changes, suggest new ideas, and change perceptions. This inquiry can be shown as steps in a learning cycle: understanding the situation, developing some models which are then assessed in terms of desirability and feasibility, and trying to implement them (Figure 3). This inquiry occurs within the local cultural context, with social norms and power relationships influencing how the process is initiated and undertaken.

The theory is that learning leads to action, a changed situation and new learning. A soft systems methodology does not guarantee a particular style of result, success must be judged from the perspective of the stakeholders, rather than the researcher. The criterion of success is that the people concerned feel that the problem had been 'solved', or that the problem situation had been improved, or that insights had been gained. This practical success can be reflected by participants' readiness to acknowledge that learning has happened, either explicitly or through implementation of changes (Checkland, 1981; Checkland and Scholes, 1990; Wilson and Morren, 1990).

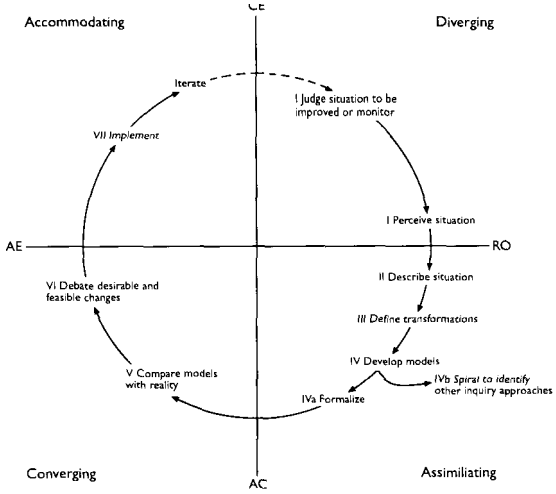


Figure 3. SSM as a stepwise revolution of a learning cycle (Wilson & Morren 1990)

Key stakeholders were identified through discussions with village leaders and local government officials. The village leaders are important stakeholder representatives, being locals who rely on farming for their livelihoods. They provide a link between villagers and formal administrative arrangements. Other stakeholders included representatives of public administration (district government); education (local school teachers); land use zoning (Royal Forestry Department and Agricultural Land Reform Office); soil and water conservation and agricultural development (Department of Land Development, Royal Irrigation Department, Department of Agricultural Extension); state-led community development (Department of Community Development); and state-initiated commercial resource exploitation (Thai Plywood Company).

The aim of initial discussions was to explore village leaders' and council members' perceptions of local problems and opportunities in terms of livelihood, agriculture, water resources, and the environment. With government and commercial stakeholders, discussions focused on problems and opportunities for achieving their responsibilities in the case study catchment.

Village leaders' problems included sources of income and consumptive needs for livelihood, the low and variable returns from rainfed upland cropping, and the lack of local economic alternatives. They described how water resources were limiting local productivity, and the impact of upland degradation on local water resources. Household level discussions highlighted the financial hardships of local villagers, and the lack of land tenure and local infrastructure.

The opportunities described by village leaders included local management of funds, and co-operatives, small-scale water resources, and diverse and integrated systems of agricultural enterprises with more emphasis on tree crops and livestock groups. Government and commercial stakeholders saw opportunities in land reform, and organisational support for access to resources and alternative enterprises.

Summary statements of the opportunities described by village leaders were then used to build conceptual models (Figures 4 and 5) of potential management with a village council; a public village meeting at a local temple; and a subset of administrative or government officials: the local head schoolteacher, officers of the Department of Land Development, and the manager of the Thai Plywood Company. The development of these models was helped by some key questions:

- What management is needed, and who would be responsible?
- What inputs, such as labour, information, funds are needed, and from whom?
- What outputs would these systems generate, and for whom?

The villagers developed a model (Figure 4) which proposed local management of revolving funds, and development of small-scale water resources to promote a diverse range of agricultural enterprises. The villagers wanted to be responsible for planning and undertaking local developments, while drawing upon the expertise of government agencies.

The school teachers' model highlighted the importance of the management of information and local organisations such as water users' groups to develop local livelihoods (Figure 5). The officers of the Department of Land Development's model revolved around soil and water conservation projects in which the villagers could participate. The manager of the Thai Plywood Company described a model based around village tree planting, with financial benefits to both the villagers and the company. The necessity for local organisation to integrate village, government and commercial activity was a fundamental aspect of his model.

Figure 4. Public meeting's model: subsystems, inputs and outputs

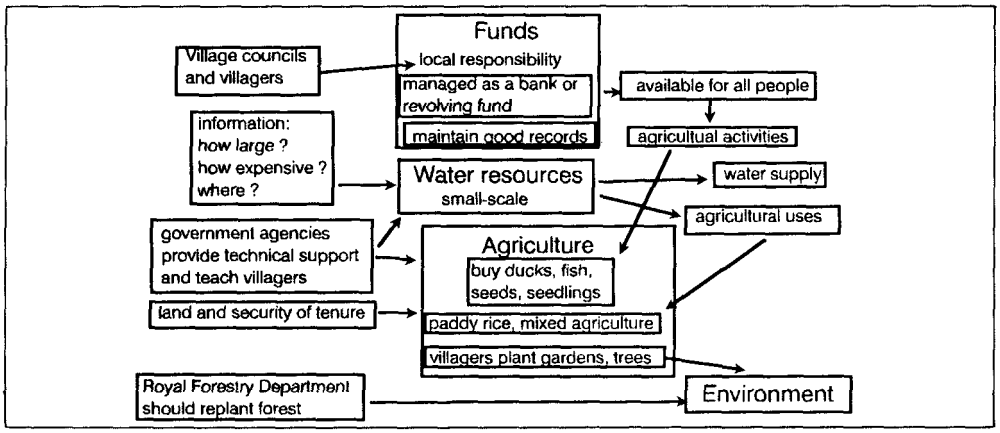
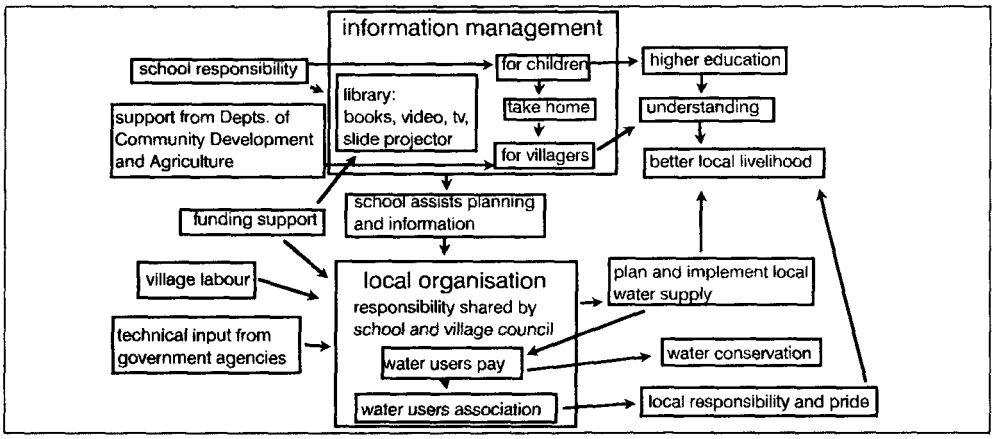


Figure 5. School teacher's model: subsystems, inputs and outputs



After discussions with village leaders, it was decided that an appropriate way to proceed was to convene a 'catchment forum' at the village leader's compound in the most upland village. The information collected from village leaders, the household survey, government

and commercial representatives, and the models, were then distributed to all interviewees as a background document before the catchment forum met. The forum was organised by the village leader, with formal requests to the local government and commercial representatives to attend. It was run in accordance with protocols of local public administration, chaired by the district deputy, with speeches by local government representatives. A key figure to attend was the Provincial officer in charge of agricultural land reform. The local village leaders and school teachers asked questions from the floor, with villagers attending listening to the discussions. While some of the elder villagers asked questions, most villagers chose to leave the role of asking questions to the village leaders and teachers.

The catchment forum was the first such meeting to be held in local upland villages. The normal protocol had been for village leaders to attend meetings with particular government staff in lowland villages. After this forum, I returned to Australia though kept in contact with local school teachers to monitor subsequent developments.

Collaborative Action and Property Entitlements

This process of inquiry sought to build upon locally legitimate protocols for interaction between myself, villagers and other stakeholders. The search was for management activities which supported both villagers' interests and those of local government stakeholders.

The forum led to the development of collaborative activities, and since then implementation has proceeded with villagers, local school teachers, and government and commercial stakeholders who contributed to the models.

In the different types of collaborative relationships which have developed, there are a variety of property relationships, benefits and duties in relation to particular resource complexes and stakeholders.

- For example, the villagers and school teachers have established a small integrated water supply scheme for household use, with financial support from the Australian Embassy's Small Activities Scheme. This water supply is run by a local village water users' association and village management committee, comprising villagers and local school teachers who can call upon the technical input of officers from the Royal Irrigation Department when they wish. The committee has established its own rules and responsibilities for monitoring water use by members, a simple user-pays system, and local financial management of a revolving fund. This organisational structure represents a local common property regime of a common-pool resource. This organisation now has the potential to expand its role as a locus of collective decision-making for other local common property resources.
- The second type of relationship is that between the village councils and the Department of Land Development for soil and water conservation measures. The department had seedlings and technical support which they could provide, but always required a formal submission from the village leader through local government protocols. Once this was established, collaborative action could proceed.
- The third type of relationship is that between the provincial land reform official and village leaders. Land reform will involve top down directives, through the protocols of

public administration. However, ever since the Provincial officer in charge of agricultural land reform visited the villages for the catchment forum, a new patronage relationship has been established. Good lines of communication between local government and local villagers will hopefully support a transition whereby the formal entitlements to land resources reflect current patterns of settlement and livelihood, and minimise the need for villagers to move and re-establish themselves.

- Finally, a programme of planting short-term coppice rotations of eucalypts, with an assured price and without the necessity of land title, has been established with the Thai Plywood Company and village leaders.

In late 1996, I returned to these villages. The water supply scheme is operating well, and villagers expressed a great deal of pride in it. The Department of Land Development is funding a new soil conservation project in these villages. The village leader who had convened the catchment forum had been elected as sub-district leader. This makes him a key figure in lobbying and expanding development activities in the local uplands.

Emerging opportunities include the potential integration of forage legumes in villagers' livestock management and the Thai Plywood Companies support for village planting of short-term coppice rotations of eucalypts. There is also potential to incorporate this new focus and build upon the local school teachers' activities in schools in similar upland situations across the Province. This can potentially promote the scaling-up of activity through replication in small upland catchments.

Some Wider Lessons

One of the main assertions of this paper is that in upland catchments, property entitlement processes need to be matched to the social and ecological context. An approach such as soft systems methodology can help identify and establish legitimate and mutually beneficial actions which integrate different stakeholders and promote more sustainable catchment management. In the case of Thailand, patron-client relationships are one way of thinking of the social context of property. A number of lessons have emerged from the experience, which may be of wider application:

- The complexity of rural development can be approached through a three-way strategy:
  1. considering environmental impacts and sustainability through catchment processes;
  2. promoting integrated planning through participatory learning processes; and
  3. developing property entitlements and economic activity through adaptive and culturally specific processes.
- Catchment areas are a suitable unit for development, being a microcosm of the institutional environment, while being contextually specific to local livelihoods.
- In upland catchment situations, land tenure alone is insufficient as a means of managing common-pool resources, such as water supplies and the complex agroecosystem functions which support sustainable livelihoods. In these cases both collective and broader collaborative forms of property are necessary.
- n Soft systems methodology is an example of a participatory process of inquiry which can be adapted to different cultural contexts to assist in identifying and

promoting collaborative partnerships between village, government, and commercial stakeholders.

- This process of dialogue and identification of these partnerships is also a process by which interests are translated and expressed as claims, and are ultimately transformed into entitlements to benefits and related duties, ie property entitlements.
- Property entitlements developed through this type of process are more likely to be robust, as they have been developed within socially legitimate conventions for participation and interaction between stakeholders.

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References

Anon. 1994. Water crisis: blame it on poor water management. *Thai Development Newsletter* 25: 14-19.

Attwater, R. 1996. Participatory catchment management and economic method: an application in Thailand. *Asia Pacific Viewpoint* 37 (3): 219-234.

Blomquist, W. and Ostrom, E. 1985. Institutional capacity and the resolution of a commons dilemma. *Policy Studies Review* 5(2): 383-393.

Bromley, D.W. 1989. Economic Interests and Institutions: *The conceptual foundations of public policy*. Basil Blackwell, New York and Oxford.

Checkland, P. 1981. *Systems Thinking, Systems Practice*. John Wiley, Chichester.

Checkland, P. and Scholes, J. 1990. *Soft Systems Methodology in Action*. John Wiley & Sons, Chichester.

Chunkao, K. 1985. Watershed management in Thailand: principles and problems. In: Santisuk, T, Samitinan, T. and Brockelman, W.Y. (Eds.) *Nature Conservation in Thailand in Relation to Social and Economic Development*. The Siam Society, Bangkok.

Cousins, B. 1995. A role for common property institutions in land redistribution programmes in South Africa. Sustainable Agriculture Programme *Gatekeeper Series* 53. Sustainable Agriculture Programme, IIED, London.

CUSRI (Chulalongkorn University Social Research Institute) 1987. *Land Ownership Status Of Farmers Under The Land Reform Program*. Land Reform Areas Project report submitted to Agricultural Land Reform Office, Chulalongkorn University Social Research Institute, Bangkok.

Feder, G, Tongroj Onchan, Yongyuth Chalamwong. 1988. Land policies and farm performance in Thailand's forest reserve areas. *Economic Development and Cultural Change* 36: 483-502.

Feeny, D. 1982. *The Political Economy of Productivity: Thai agricultural development* 1880-1975. University of British Columbia Press.

Girling, J.L.S. 1981. *Thailand: society and politics*. Cornell University Press, Ithaca.

Gohlert, E.W. 1991. *Power and Culture: The struggle against poverty in Thailand*. White Lotus, Bangkok.

Hewison, K. 1993. Nongovernmental organisations and the cultural development perspective in Thailand: a comment on Rigg (1991). *World Development* 21(10): 1699-1708.

Hinchcliffe, F, Guijt, I, Pretty, J.N, and Shah, P. 1995. New horizons: the economic, social and environmental impacts of participatory watershed development, Sustainable Agriculture Programme *Gatekeeper Series* 50. Sustainable Agriculture Programme, IIED, London.

Hirsch, P. 1993. The state in the village: the case of Ban Mai. *The Ecologist* 23(6).

Hirsch, P. 1990. *Development dilemmas in rural Thailand*. Oxford University Press, Singapore.

Oakerson, R.J. 1992. Analysing the commons: a framework. In: Bromley, D.W. (Ed.) *Making the Commons Work: Theory, practice and policy*. International Center for Self-Governance Press, San Francisco.

Pantasen, A. 1994. Decentralisation, the tambon council and community forest management. *TEI Quarterly Environment Journal* 2(2): 38-50.

Rigg, J. 1991. Grass-roots development in rural Thailand: a lost cause? *World Development* 19(2/3):199-211.

Scoones, I. and Thompson, J. 1994. Knowledge, power and agriculture - towards a theoretical understanding. In: Scoones, I. and Thompson, J. (eds.) *Beyond Farmer First: Rural people's knowledge, agricultural research and extension practice*. Intermediate Technology Publications, London.

Terwiel, B.J. 1984. Formal structures and informal rules: a historical perspective on hierarchy, bondage and the patron-client relationship. In: Brummelhuis, H.T. and Kemp, J.H. (eds.) *Strategies and Structures in Thai Society*. Anthropological-Sociological Centre, University of Amsterdam.

Turton, A.. 1987. *Production, Power and Participation in Rural Thailand: Experiences of poor farmers' groups*. United Nations Research Institute for Social Development, Geneva.

White, T.A. 1992. Landholder cooperation for sustainable upland watershed management: a theoretical review of the problems and prospects. *Environmental and Natural Resources Policy and Training Project (EPAT), Working Paper* no. 1. Midwest Universities Consortium for International Activities Inc. (MUCIA).

White, T.A. and Runge, C.F. 1994. Common property and collective action: lessons from cooperative watershed management in Haiti. *Economic Development and Cultural Change* 43(1):1-42.

Wilson, K. and Morren, G.E.B. 1990. Systems Approaches For Improvement In Agriculture And Resource Management. Macmillan.