Planning land use together

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In the highlands of northern Thailand, promoting sustainable farming systems is proving to be more of a socioeconomic issue rather than transfer of technology. The Thai-German Highland Development Programme (TG-HDP) tries to develop means and procedures for government extensionists to relate to this new understanding.

Most farm households in the highlands practise shifting cultivation based on upland rice grown on slopes ranging from 35% to over 70%. Various forces are causing a rapid change in these farming systems, e.g. increasing scarcity of land, pressure from the government to reduce soil erosion and to refrain from shifting cultivation, forest cutting and opium growing, and road construction and the subsequent exposure to urban markets.

The Royal Thai Government is trying to promote permanent and sustainable farming systems. Various government and non-government organisations and programmes are involved in this effort. Since 1987 TG-HDP has promoted a package of measures including grass strips and/or alley cropping to control erosion, combined with zero-burning, minimum tillage, mulching and strip cropping.

In some cases, adoption of these recommendations has been moderately successful. Often, however, farmers adopted the measures not in order to practise more sustainable farming, but for many other reasons such as securing land tenure and legal status, improving their relationship with government officials and/or in response to material incentives. Moreover, in most villages, adapters have been mainly the better-off farmers (Orth et al. 1991).

Barriers to real adoption

The main reasons preventing real adoption are:
- Farmers often do not perceive decreasing sustainability as a major problem. They relate problems of declining yields mainly to weeds, pests and diseases and, to some degree, to decreasing soil fertility, whereas the recommendations are mainly aimed at controlling soil losses. Soil loss is a major problem from the government’s point of view, but not from the farmers’ if farmers' problems are to be addressed, a much broader and more holistic view has to be applied.
- As the natural and socioeconomic conditions vary greatly, ready-made packages of technical recommendations are of limited relevance for the specific conditions of a particular farm household.
- Short-term benefits if any from following the recommendations do not pay for the additional labour inputs and/or costs of these measures. Resource-poor farmers, who often have to calculate with annual discount rates of 50% and more, can hardly afford to invest a substantial part of their labour into future benefits, if their daily survival is not secured.

Community-based landuse planning

TG-HDP is now developing an approach which will enable government extensionists to cooperate more closely and communicate more appropriately with farmers, instead of lecturing to them. Ways are sought to encourage dialogue about improved landuse among farmers and between farmers and government officials. To support this dialogue, it was considered essential to visualise landuse.

First attempts were made with maps and aerial photos, but most villagers could not understand them and the aerial photos were too small to permit discussions with the whole village. An approach was then developed which bases the discussion of landuse on a topographical model.
In order to make it feasible for a field-level extensionist to assist farmers in this process, it had to be broken down into practical steps easily comprehensible to farmers and extensionists. The project is still working on developing this approach during a pilot test phase in a few villages. The procedures currently applied involve the following six steps.

Village receives a model
A topographical model is handed over to the village community as their own property. It depicts the surrounding area which is presently being used by the villagers or is relevant to them in some other way.

The model is made from Styrofoam sheets, each layer representing a 20 m contour line. The horizontal scale of the model is 1:3000, which is sufficient to mark the location of individual fields of 0.5 ha size. The vertical scale is 1:2000 in order to accentuate the topography as the distinctive feature of the hilly landscape. A 1:50,000 topographical map proved to be sufficiently accurate as a basis for these models.

Before building a model, it is important to identify the present outer boundaries of all important resources being used by the village concerned. This includes not only cropland but also e.g., catchments for village water supply, grazing areas and common property resources.

Assessing state of resources
The next step involves recording the present state of the village resource base and identifying conflicts and problems. Based on the model, villagers and a team of government extensionists from various departments meet regularly to describe present land use, analyse the status of the natural resources and their present management, and identify related needs, conflicts and problems.

Various participatory techniques to appraise the present situation should be applied, e.g., village walks, transect walks, diagramming, mapping, etc. (as described in Mascarenhas et al. 1991). The topographical model is a focal point of these appraisal activities, because this is where villagers and extensionists continually record and permanently store the information gained for further discussions.

During the meetings around the model, it is extremely important that villagers take the lead as much as possible. Normally, government officials try to avoid situations which are not under their control. The discussions around the model strengthen the position of the villagers, as they are more knowledgeable in describing the village resources and pointing out their location in the model.

The women are sometimes extremely keen on locating resources and describing their use. They are proud to demonstrate their knowledge, which is often more detailed and accurate than the men’s. This is probably because the women spend more time working in the fields and collecting fuel, food plants and other common property resources. Women and also poorer income groups do not have a chance to actively participate.
participate in the process, important in-
formation cannot be collected, and im-
portant interests and conflicts will be ig-
nored.

Besides facilitating the communica-
tion process, the role of government of-
icials at this stage is to raise legal issues
regarding land use, and to represent
public and government interests e.g. the
interests of lowlanders who might be
affected by siltation or pollution of water
coming from the highlands or government
interest in preserving natural forests.
Previously, government officers only
came to the village in order to lecture
people about their un-desired behaviour.
Now these issues are one point for
consideration among many others, and
have to be balanced in order to reach
arrangements agreeable to the
community.

Agreeing on priority changes
Areas are identified where villagers
consider it most worthwhile and neces-
sary to address problems related to land
use, and first activities are agreed upon.
At present, these activities involve testing
options to see whether they have potential
to address one of the problems
identified. Over time, farmers will gain
more experience in actively selecting
what is promising for them to try out.
If farmers do not have their own
suggestions on how to try solving an
identified problem, extensionists suggest
innovations as entry points which allow
great variation and flexibility, rather than
as ready-made technology packages.
The responsibility for verifying the validity
of an innovation rests with the farmers,
who will finally adopt new techniques only
after they have experienced them as
feasible and beneficial under their
specific conditions.

Besides testing technical innova-
tions, the agreed landuse change may
involve re-installing or adjusting agree-
ments and regulations on managing
Common property resources In some
cases, the discussions around the topo-
graphical model have opened our eyes to
the existence of indigenous management
systems, e.g. for controlling the use of
water, forest and wildlife resources

Planning the activities
Landuse changes and steps for imple-
menting them are suggested by villagers
The extensionists’ role is to assist in the
planning process or to offer support for
implementation in order to overcome
constraints which villagers cannot
overcome on their own.

Implementation plans are discussed
in the village meeting in every detail and
broken down into procedures with clear
responsibilities of all parties involved The
activities agreed upon should be clear to
everybody involved.

Visualising the steps at a place perma-
nently accessible to everybody in the
village makes them more binding, also
regarding the contributions the outsiders
have agreed to make.

Examples of such landuse changes are:
- protecting particular catchments for
village water supply by agreeing on
landuse restrictions’;
- agreeing on regulations for managing
and using forests which are sources of
fuel, fodder or timber, or agreeing to
improve these forests, if necessary,
- improving soil and water conservation
practices in cultivated areas which are
most relevant for the village.

Implementing agreed changes
Villagers implement the plans, only if
necessary with contribution from the
extension staff If extensionists are in-
volved, they must provide all promised
contributions in the agreed Quantity,
quality and lime
Regular follow-up visits to
monitor the progress and to identify
unexpected obstacles and problems are
also necessary. It is particularly valuable
if the extensionists can inform about the
experience of farmers in other villages.
To be able to do this, extensionists need
to develop an “exploratory altitude”.

The landuse changes which farmers eventually implement often differ
greatly from the ideas originally intro-
duced. In most cases, ideas suggested
by outsiders seem to be neat and or-
derly, whereas technologies adapted by
farmers often appear chaotic and
confused to outsiders It is important that
extensionists do not waste their time
promoting more accuracy and neatness
in areas where it is unnecessary, but
rather learn to accept farmers’ criteria
and aesthetic perceptions

Monitoring and evaluation
Regular meetings are held with the
whole village or farmer groups to monitor
the progress of the activities and to
evaluate their impact The above-
mentioned unorthodox adoption of
landuse changes by farmers implies an
enormous problem in making quantita-
tive measurements of farmer adoption
and/or yields Therefore, results are
quantified only when farmers have
problems in assessing the impact of an
innovation with their own criteria.

The farmers decide which of the op-
tions tested or activities implemented
deserve to be pursued further, and which
problems require what kind of further
efforts Thus the recurrent cycle of
community-based landuse planning
continues As the villagers and exten-
sionists advance in planning together,
this cycle will not strictly follow the dis-
tinct steps described above: many will
occur simultaneously at the same
meeting.

New roles for extension
Attitudes and behaviour of government
workers can gradually change, if they are
exposed to situations where they have
positive experience in working with
farmers. If extensionists are to facilitate a
continuous learning process rather than
trying to transfer a technology, their skills
and capabilities must be developed
accordingly In addition practical
procedures and techniques in working
with farmers have to be designed which
can be applied by the average
extensionist.

Planning landuse changes must be a
continuous process, in which one step
is based on the trust and experience
gained during previous steps. If outsiders
are involved, consistency and continuous
personal commitment in the planning and
implementation process are essential.

A serious problem of the approach
is that in full village meetings, the village
leaders representing a local elite tend to
dominate the discussion and decision-
making process in order to secure
maximum benefits for their own group.
Such problems still need to be addressed
before we can conclude our last phase of
this landuse planning approach.

Nevertheless, the experience thus
clearly encourages further exploration of
new ways in which government officials can
work with highland farming communities
But expectations should not be ex-
aggerated Since the primary emphasis is
on a shift in roles of extensionists, rather
than on transferring technology, sufficient
time must be given for gradual
adjustment in people’s attitudes and
behaviours.

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