

Multi-stakeholder dialogue on land use change

Transdisciplinary approaches to address landscape transformation in Kerala

The BioDIVA project carries out inter- and transdisciplinary research in the district of Wayanad, Kerala (South India), to explore the social, economic and ecological consequences of unintended land use change. The state level workshop "Multi-stakeholder dialogue on land use change", focusing on transdisciplinary responses to landscape transformation in Kerala, was held in January 2013 in Trivandrum, Kerala.

The aim of this workshop was to gain insight into the current situation of land use change in Kerala and to develop ideas on policy integration for sustainable land use management.

Key questions discussed were: (1) How can land use change be regulated, taking account of social, ecological and economic factors? (2) How do land use changes affect the livelihoods of the local communities, especially indigenous people and women? (3) What is the effect of agricultural transition on the agro-ecosystem and agrobiodiversity? (4) How can geospatial tools contribute to an understanding of the seasonal dynamics of landscape transformation at multiple scales?

The workshop brought together experts, civil society representatives and policy makers concerned about changing land use and its effects on ecological services and agrobiodiversity. Together, the assembled experts explored strategies for sustainable land use and exchanged ideas on the process of policy integration.

The workshop was a valuable opportunity to build alliances among stakeholders and an important contribution to the on-going dialogue on landscape transformation.



TOPICS

- Transdisciplinarity
- Land use change
- People and resources
- Policy and institutions
- Policy integration

General approach

BioDIVA has a transdisciplinary research approach. This goes beyond working across different disciplines like economics and sociology, ecology and remote sensing. We value non-academic knowledge, gained through experience in the real world, as a valuable contribution to problem solving. Acknowledging the fact that accelerated land use change results in loss of biodiversity, we have aligned our research goals with the current situation. Our series of workshops were aimed at engaging in a multi-stakeholder dialogue to discuss findings and experiences, making use of the assembled expertise to move towards joint solutions.



Workshop structure and main themes

Due to the presence of non-English speaking local farmers, the workshop was held bilingually, with sessions in English and Malayalam. The workshop was structured into three sessions:

- (1) Scientific perspective: Research results were presented highlighting the local context of landscape transformation in Kerala, followed by a panel discussion by leading scientists and other experts, mainly from South India, on the wider context of non-regulated land use change.
- (2) People and resources perspective: Presentations by the BioDIVA committee on land use in Wayanad were followed by open discussions, with local level stakeholders (farmers, tribal group members, local level resource managers) sharing their views on values, identities and visions with state level decision makers.
- (3) Policy and institutional perspective: Decision makers presented their outlook on critical challenges in land use change. This was followed by an interactive dialogue session focusing on key points from the three sessions and exploring the concept of policy integration.

During the last section of the workshop, NetMap exercises (detailed later) were conducted to capture the insights of all participants on policy integration. The NetMap exercises were held in two groups, working in two languages. The Malayalam working group, comprising farmers and local-level government officers, focused on interactions between management authorities and community members at the local level. The second group, with English as the working language, included representatives from high level government institutions and scientists. Its discussions focused on the regional factors affecting land use change and the potential of policy integration to offer wise solutions in response to the challenges involved.

The wider context of land use change

This discussion opened with perspectives of the scientific community on land cover change and its policy implications. The process of land-use transformation is accelerating over the entire state of Kerala. Rice lands are being planted with commercial crops like banana and areca nut, used for brickmaking, converted to buildings sites, or just left fallow. The key reason for the decline in rice cultivation is that farming communities consider rice to be a non-profitable crop. A participant noted that, in 2012, the price paid for rice fell to INR 17 per kilogram while the daily wage rate increased to INR 200. Stakeholders explained that whereas in the past rice cultivation was considered a symbol of prosperity, now it has become a symbol of poverty, especially among the smallholder and subsistence farming community.



CAB Director, Dr. Anil Kumar, introduces the plenary discussion on "Insights from the policy dialogue sessions"

Participants discussed the multiple benefits of rice cultivation, while raising concerns regarding high input costs. The current market price compensates farmers for only about 50% of their production costs. Besides harboring agrobiodiversity, a source of useful products like medicinal plants, rice lands also serve as grazing areas during the dry season. Irrigated and rain-fed rice fields have an important function as water reservoirs. As the area under cultivation shrinks, this may lower the water table and, over time, impact on water availability. In this context, mechanisms like payment for ecosystem services (PES) could provide a way of compensating rice farmers for their contributions to society and the ecological balance.

People, policy and resources perspective

Increased demand for land has made it a commodity for exchange. Throughout the session, concerns were raised about the limitations and loopholes of existing policies on agrarian land use. For instance, the recent Wetland and Paddy Field Conservation Act (2008) permits conversion of land for housing and other uses under special circumstances. As a result, powerful land mafias, keen to convert agricultural land for non-agricultural use, are taking advantage of the loopholes in the existing policies.

In the discussion on visions of land use in Wayanad and policy recommendations, local stakeholders (farmers, tribal group members and resource managers) focused on the unsustainable impacts of land use change, as well as requesting specific improvements. In general, those who are still farmers, i.e., who have not sold their land or shifted to off-farm activities, have suffered from negative impacts of environmental and economic changes. The desire for economic gains and immediate profit was identified as the main driving force for changes in land use practices.

BACKGROUND

Research region Wayanad

Adjoining the biodiversity hotspot Western Ghats, Wayanad district of Kerala is a topographically distinct region with good mix of cultivated and natural ecosystems. With nearly one fifth of its total population belonging to tribal or indigenous communities, the region is also socially and culturally diverse. The population is a mix of indigenous communities (Kurichya, Kuruma and Paniya), landholders and landless labourers.

The landscape in the lowlands was once dominated by rice fields. Recent years have witnessed a notable change in land use practices and the socio-economic setup: Many people have moved away from agriculture and now rely on off-farm activities for livelihoods and income generation.

Agricultural diversification, market demand, water and climate variability and economic rationality are the key determinants of this change process.

APPLICATION OF THE NETMAP METHOD

Step 1: The participants list all stakeholders in order of their importance in relation to land use change.

Step 2: The most important agents are selected from the list.

Step 3: Participants draw connections between these agents.

Step 4: The relationships between the stake holders are characterized, for example as *complementary*, *conflicting*, or *potential future connection*.

Step 5: Flows of money between the agents are discussed.

Step 6: Stakeholders are ranked, e.g. according the degree of uncertainty in their earnings or the value of their financial assets. The selected indicator is used as a measure of power to influence land use change.

Farmers demanded more legal, institutional and financial support:

- (1) Cash incentives for biodiversity conservation through traditional farming methods.
- (2) Practical and institutional support for eco-friendly agriculture initiatives such as the allocation of land for common grazing and the production of organic manure, seed provision for the cultivation of traditional rice varieties, and the protection of the natural vegetation around streams and ponds and sacred groves.
- (3) Agricultural extension to promote wise water management, and provide advice on production (particularly for women's groups) and marketing (e.g. to eliminate intermediaries), as well as the provision of soil testing equipment and harvesters.
- (4) Support for rice field irrigation by completing unfinished irrigation projects (Banasura, Karapuzha) and allocating water from Wayanad's dams for irrigation, as well as free electricity for irrigation.
- (5) Increase of Panchayats' legal powers, e.g. to bring fallow land into cultivation, to discourage banana cultivation and encourage rice cultivation, to enforce rules, and to grant or deny construction permission.
- (6) Procurement and processing of agricultural produce at Panchayat level to meet local demand.
- (7) Farmer participation in agricultural policy formulation, prioritizing household food security,
- (8) Government action to raise the floor price of rice.

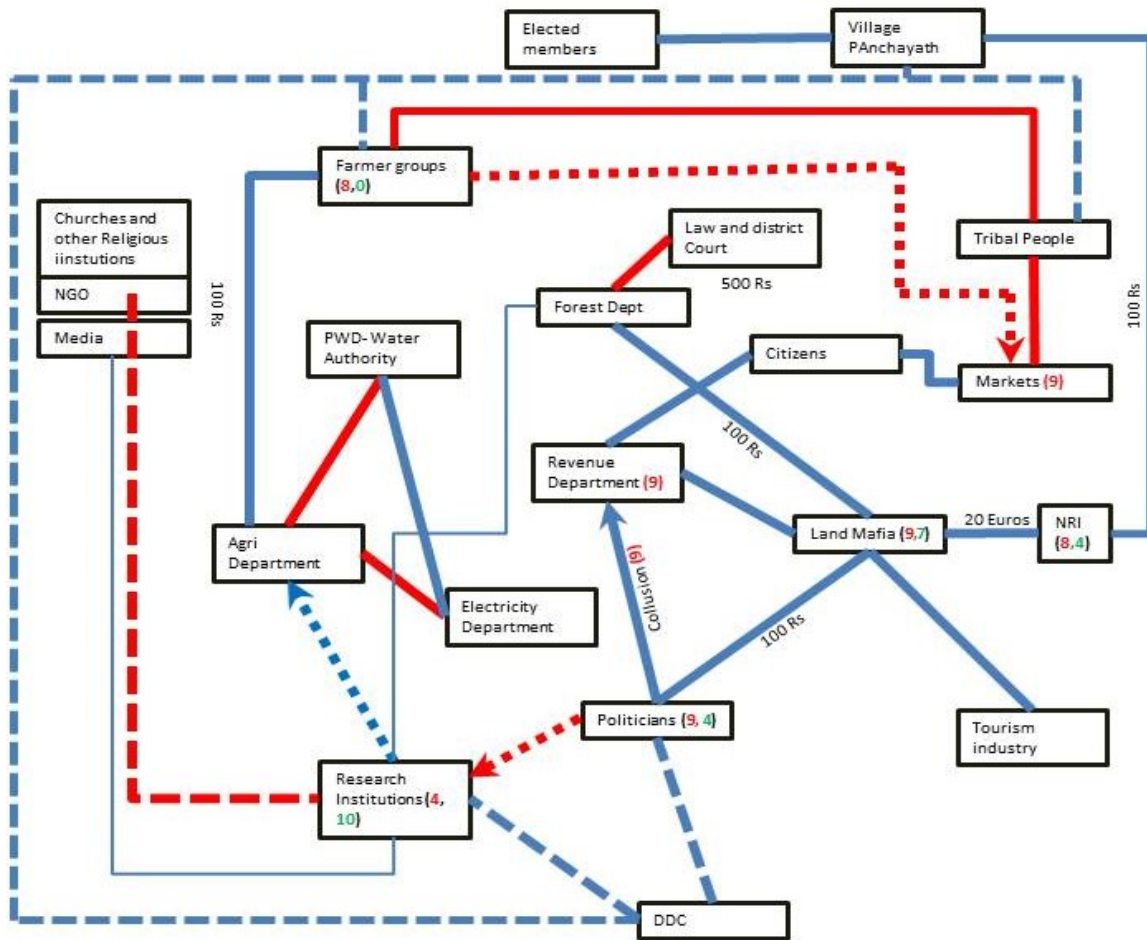
NetMap Exercise

NetMap, a method that enables the depiction of multiple insights of different stakeholders, was employed to identify the most influential factors, agencies and stakeholders affecting decisions on land use in Kerala. The aim was to help stakeholders to understand land use change through sharing multidisciplinary scientific knowledge and field experiences.

Key results of the net map exercise

- The 'land mafia' and the Revenue Department are the key players and are central to the land use change process in the region.
- The District Development Committee is a forum with the potential to connect Panchayats, farmers groups and tribal groups.
- Conflict resolution between research agencies and implementation agencies should be a priority.

Below, the diagram produced in the NetMap exercise by the group of scientist and representatives of federal authorities at state and national level is presented as an example.



Connections:

- Complementary connection
- Conflicting Connections
- Potential connections in Future
- Potential future conflicts
- Oneway Complementary
- One Way conflicts
- Weak Connections

- **Power:** Measured in 1 to 10 scale, 10 is considered as most powerful. It is divided into two and ranked separately 1. **Amount of money** (Shown in Red/Blue Font color) 2. **Uncertainty in earnings** (Shown in green color font).
- **Money flow:** The amount of money indicate the relative amount of transaction between the stake holders in comparison with the other stake holders. It is shown by the value of currency in the netmap
- DDC – District development Committee

Illustration: Monish Jose

Policy outlook for critical challenges

Participants in the discussions on policy and the institutional context of landscape transformation noted that, in recent times, most Indian agricultural policies have been oriented towards the market and commodity production, favouring cash crops. Usually they respond to the interests of large land holders. Although smallholders have a higher total area of land holdings in India, the interests of small farmers are generally not considered in policy formulation. The same is true for agricultural research at a national level.

Economic research is mostly oriented towards profit and net revenue. An ecosystem based approach, focusing instead on balancing ecological sustainability and economic wellbeing, represents a promising alternative. In the search for pathways towards the goal of adopting this new approach, transdisciplinarity is emerging as a key concept. On the other hand, the results of scientific research can help farmers to identify crops suitable for particular places and to manage their farms effectively. Integrated resource management that involves stakeholder dialogue and draws on participatory research can facilitate the development of strategies tailored to local needs. At the same time, further efforts are required to define and protect the agricultural rights of small farmers.

Dialogue for Policy Integration

It was broadly agreed during the multi-stakeholder discussions that the policy integration process should explore complementarities and address contradictions among regulations governing agriculture and land use. Policy integration also needs to strike a balance between social needs and the sustainable management of land resources embodied in government regulations. There was a productive dialogue on these issues, and on whether new policies are required in response to the worrying trends of land use change, or whether these can be addressed by plugging gaps and the integration of existing policies. Overall, participants expressed approval for the concept of policy integration.

Scientific knowledge together with a clear understanding of policy gaps and institutional roles provide the foundations for the sustainable use of land resources. NetMap proved to be a useful tool to engage state level stakeholders, decision makers and resource managers in joint deliberations. The two NetMap exercises captured the perceptions of state level and local stakeholders on land use change, the factors that drive this change, and the potential of policy integration to eventually reverse or at least regulate current trends. Participants agreed that the multi-stakeholder dialogue had contributed to a better understanding of policy integration in the context of landscape transformation.



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