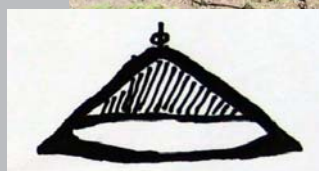


UNFCCC Intersessional Meeting, Bangkok 2009

Briefing Paper

SHIFTING CULTIVATION AND CLIMATE CHANGE



SHIFTING CULTIVATION AND CLIMATE CHANGE

In the age of global climate change, resource use and management practices that rely on the use of fire and thus emit carbon are coming under increased pressure. This is particularly the case with shifting cultivation.

Because shifting cultivation is so different from the forms of agriculture practiced in the lowlands and by the majority populations, it is one of the most misunderstood land use systems. Thus, in the name of forest conservation and development, colonial and post-colonial governments in Asia have since more than a century devised policies and laws seeking to eradicate shifting cultivation.¹

The reasons usually given for such restrictive state policies are that shifting cultivation is

- Technologically primitive, inefficient and wasteful, prevents development and thus keeps people in poverty
- Destructive to forests and soils

Decades of research on virtually every aspect of shifting cultivation have generated sufficient evidence to prove that its sweeping condemnation by government bureaucrats, politicians or professionals is based on insufficient and erroneous information, or quite simply myth.² Notwithstanding all evidence, however, attitudes by decision makers and, consequently, state policies have hardly changed.

WHO ARE SHIFTING CULTIVATORS IN ASIA?

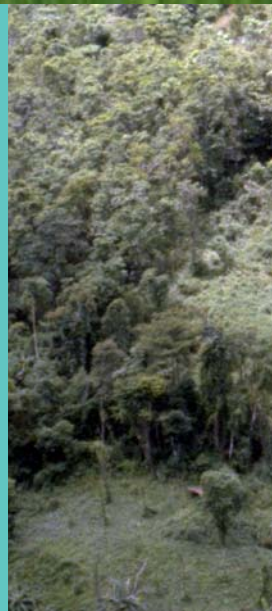
In Asia, the majority of the people practicing shifting cultivation belong to ethnic groups that are generally subsumed under categories like ethnic minorities, tribal people, hill tribes or aboriginal people. Today, however, many of these peoples prefer to be called indigenous peoples.³ The popular prejudices against shifting cultivation common in these countries are conflated with other negative attributes ascribed to indigenous peoples throughout the region: that they are backward, primitive, a hindrance to national progress, disloyal to and a security problem for the state etc.⁴



WHAT IS SHIFTING CULTIVATION?

Shifting cultivation is also called swidden cultivation or rotational farming. It is a form of land use characterized by:

1. An alternation between a short span of cultivation and a comparatively long span of natural or improved fallow, and therefore:
2. The regular, in most cases cyclical shifting of fields, and
3. The removal of the fallow vegetation, normally (though not exclusively) by use of fire.





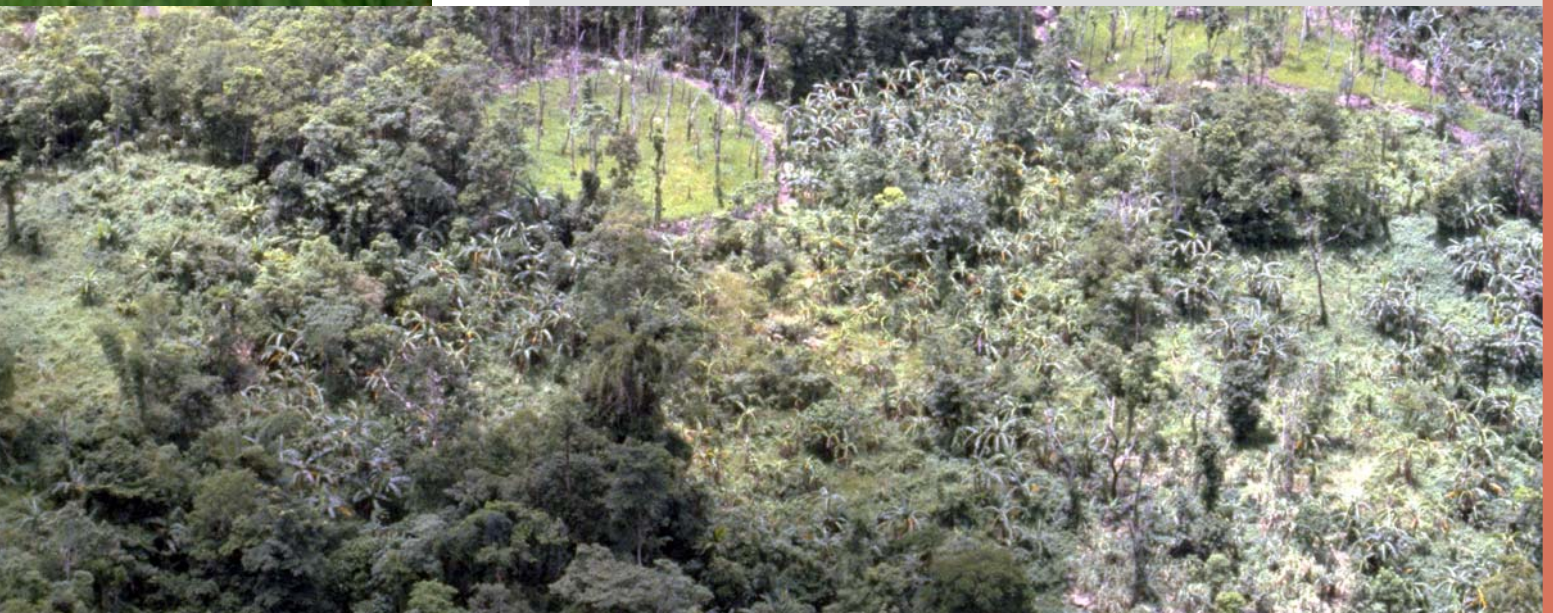
It is often overlooked that shifting cultivation for most people, and definitely for all indigenous peoples who practice it, is not simply a farming technique but a way of life. However, precisely because shifting cultivation is so closely interlinked with indigenous peoples' lives and cultures, state policies aimed at regulating it – if not banning it outright - have an impact on indigenous peoples that goes far beyond mere economic intervention. In all countries in South and Southeast Asia, government policies on shifting cultivation are basically informed by environmentalist and developmentalist rhetoric. With the official aim of protecting forests from what is seen as an ecologically harmful practice, of modernizing what is considered a backward form of agriculture, and of controlling and integrating into the nation a population that is viewed with suspicion due to its “nomadic” way of life, all of these policies seek to reduce or eradicate shifting cultivation in one way or another.

The current climate change discourse has taken the debate on shifting cultivation to another, a global level, reinforcing existing prejudices, laws and programs with little concern for the people affected by them. Now, shifting cultivation is bad because it causes carbon emission and thus contributes to climate change.

Recent research has however also provides evidence to the contrary.

1. *Shifting cultivation is not a major cause of deforestation.*

According to the FAO, UNDP and UNEP, the main causes of deforestation and thus carbon emission in Asia has been intensification of agriculture and large-scale direct conversion of forest for small-scale and large industrial plantations, and *not* shifting cultivation. In fact, according to the FAO's own definition of forest, shifting cultivation does not cause deforestation but forest modification. Nevertheless, shifting cultivators still ranks prominently on the priority list of decision makers for corrective intervention in their forest conservation programs.



2. More carbon is being sequestered in areas under shifting cultivation than under other forms of land use, like permanent cropping of seasonal plants, or plantations.

Countries like Malaysia and Indonesia have, in recent years, launched ambitious land conversion programs for large-scale oil palm plantations, and rubber plantations have been established on a large scale in Southwest China over the past decades, and are currently rapidly expanding in Cambodia and Laos. These programs have come under heavy criticism due to their contribution to deforestation, loss of biodiversity, environmental pollution and dispossession of indigenous and local communities. Contrary to what is often being projected, the carbon sequestration capacity of industrial tree plantations such as oil palm monocultures is generally lower than that of agroforestry systems, including traditional longfallow shifting cultivation, which is more beneficial to local people and biodiversity.

Above-ground carbon stock in long fallow shifting cultivation with cycles of 8 years and more was found to be between 74 and 80 tons/hectare. When shifting cultivators are forced to shorten their cycle to 4 years fallow, the carbon stock is reduced to 8-9 t/h. Under continuous annual cropping the carbon stock is only 1-4 t/ha. Industrial plantations on average store less carbon than traditional long-fallow systems of shifting cultivation. The above-ground carbon stock in rubber plantations is about 50 t/ha, in oil-palm plantations between 36 and 91 t/ha. This also compares not well with other forms of land use common among indigenous peoples, like the rubber agroforests in Indonesia, which are usually combined with shifting cultivation. They have above-ground carbon stocks of 90-116 t/ha.⁵

Especially at a landscape level, the carbon sequestration capacity of land under indigenous peoples' land use systems is by far superior since they usually include not only a mosaic of various anthropogenic vegetations – fields cultivated with annual crops, fallow land, agroforests, home gardens, orchards etc. – but also natural forests, either community forests which cover their needs for various wood and nonwood forest products, or sacred and other protected forests.





3. *Shifting cultivation enhances bio-diversity and is crucial for in-situ conservation of crop genetic resources.*

Shifting cultivation is a form of land use which enhances biodiversity. Severe declines in plant diversity have been observed in most areas when shifting cultivation is replaced by permanent land use systems. Particularly worrying is the decline in agrobiodiversity. Shifting cultivators have preserved agrobiodiversity through local rules, practices and the informal networks for exchange of seeds and knowledge, thus ensuring food security of their communities. Along with the replacement of shifting cultivation comes the collapse of these networks, which results in a substantial loss of crop genetic resources. The availability of high genetic diversity in agricultural plants has however been identified as a key element in adaptation strategies to climate change.



RIGHTS AND OPPORTUNITIES

The UN Declaration on the Rights of Indigenous Peoples clearly states that indigenous peoples have the right to their land, territories and resources, and participate in decision-making processes directly relevant to their lands and territories. Further, their Free, Prior and Informed Consent- FPIC is required in the formulation of laws and policies, programmes and projects that concerns them. So far, however indigenous peoples are and their organizations have not been allowed to participate effectively in the discussion on climate change mitigation schemes like REDD (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries), and their right to FPIC, and to their land, territories and resources continue being ignored

The potential contribution of indigenous peoples' land management systems to REDD and climate change mitigation in general has so far received far too little attention. This despite the fact that in Brazil, for example, it was found that recognizing indigenous peoples' rights over their territories is the most effective way of preventing deforestation. Recognizing indigenous peoples' rights to land, territories and resources, and their land-use and management practices in REDD and other climate change mitigation schemes is therefore not only an obligation emanating from the provisions of the UN Declaration on the Rights of Indigenous Peoples but can also substantially contribute to more effective climate change mitigation. Climate mitigation partnerships with indigenous peoples offer opportunities for policy makers to creat win-win situations in which national and global environmental concerns as well as poverty and human rights concerns can be simultaneously addressed.

The International Indigenous Peoples' Forum on Climate Change demands that any international agreement relating to climate change shall ensure all mitigation actions including REDD should be consistent with international instruments such as the UN Declaration on the Rights of Indigenous Peoples, the Convention on Biological Diversity, and agreements on Sustainable Development and the Millennium Development Goals. They should also recognize the multiple values and benefits of forests and biodiversity as well as the key role of Indigenous Peoples' traditional knowledge, livelihoods and customary resource management systems in preventing deforestation and ecosystem degradation.





Notes

- ¹ See e.g. Fox et. al 2009, Padoch et. al. 2007 in general, IWGIA 2007 for Laos, Pulhin et. al. 2005 for the Philippines, Laungalamsri 2005 and Forsyth 1999 for Thailand, Phuc 2008 for Vietnam, or Dove 1985 for Indonesia.
- ² See e.g. Dove 1983, 1985, 1996; Padoch 1985; Forsyth 1999, Laungaramsri 2005, Nielsen et.al. 2006, Forsyth and Walker 2008.
- ³ See Erni 2008 for a compilation of articles on the use of the concept of indigenous peoples in Asia, and overviews of common designations and state policies in various countries of the region. In recognition of their increasing self-identification as indigenous peoples I will throughout the article use this term.
- ⁴ See e.g. various contributions in Duncan ed. 2004.
- ⁵ Figures taken from Bruun et.al. 2009, van Noordwijk et. al. 1995. For a more in-depth discussion of shifting cultivation and climate change and more facts and figures see Erni, Christian 2009. *Shifting the Blame? Southeast Asia's Indigenous Peoples and Shifting Cultivation in the Age of Climate Change*, available at www.ccm.in.aippnet.org

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