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Foresteering for Food



Agroforestry: A New Green Buzzword?

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In the pursuit of ways to manage the unpredictable impact of climate change, continuous efforts have been expended to seek the right solutions. Agroforestry may be a science that has been around for ages, but only now it is re-surfacing as a viable alternative approach to environmental issues.

When the Southeast Asia regional office of the World Agroforestry (WFC) Center held a seminar to observe the Year of the Forest in Jakarta recently, many among its participants were not quite sure what the word 'agroforestry' actually meant.

Google's Wikipedia defines agroforestry as 'an integrated way of bringing together trees, shrubs, crops and/or livestock, in combination with agriculture and forestry technologies, to create more diverse, productive, profitable, healthy and sustainable land-use systems.'

To the uninformed public, climate change issues usually mean reducing carbon emissions from forests. Few would give any thought to linking any solution to the agricultural sector. Yet, in the process of going all-out towards a forest-oriented solution, a few conflicts have emerged.

In China, for example, more trees may actually be harming the environment. This is the view of World Agroforestry Center scientist Jianchu Xu, writing in *Nature.Com*. "China's focus on increasing forest cover could be better managed to protect ecological functions and provide livelihood benefits," he wrote.

China has planted more than four million hectares of new forests each year since the 1990s and President Hu Jintao has promised another 40 million hectares will be added in the next decade. But Jianchu warns that a large part of the so-called forest cover is actually monoculture plantations of non-native trees such as fruit trees, rubber and eucalyptus, which threaten ecosystem services—in particular watershed protection and biodiversity conservation.

"Plantation monocultures harbor lit-



Agroforestry activity, West Kalimantan - Indonesia, 2009.

tle diversity, they provide almost no habitat for the country's many threatened forest species," says Jianchu in calling for a re-think of China's one-size fits all forestry mandate to an approach that considers the country's diversity of landscapes and ecosystems. Jianchu writes, "I would like to see China establish parallel forest-management programs for recovery and restoration of natural forests and for incorporating working trees into farmlands."

He believes a dual strategy can ensure that China's massive investment in forests provides maximum benefit to both local livelihoods and the environment. It

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is an approach that is fast gaining ground in Southeast Asia, given growing concerns over food security. "This system takes into account emissions not only from deforestation and forest degradation but also from agriculture," Dr Ujjwal Pradhan, regional coordinator of the World Agroforestry Centre told seminar participants.

The center has developed methods for dealing with land tenure conflicts, a major problem throughout Southeast Asia. Because 'forest' implies an institution rather than trees, new solutions are needed before Reduction of Emissions from Deforestation and Degradation (REDD) protocols can be introduced.

Throughout the region, traditional methods of farming and living off the forests have been practiced by farmers and forest people for generations, although the benefits have not been fully recognized as an accepted alternative to solving environmental problems caused by climate change.

Chandra Kirana, a natural resource management practitioner and advisor to a governmental unit managing REDD, points to many different kinds of traditional agroforest systems in Indonesia that have evolved over centuries, but are fast disappearing. Among them are the *pekarangan* in all of Java, the *kebun talun* West Java, the *simpunk* in East Kalimantan and the *tembawang* in West Kalimantan.

Here, farmers have developed sophisticated farming systems that mimic the structure of the rain forests to produce food, timber and medicinal plants. In Java's *pekarangan*, for example, the *melinjo* nut and tall fruit trees constitute the agroforest canopy, which serve as cover for cultivating tubers and medicinal plants such as ginger and *galangal*. On the tree trunks are found the *gligo* and other food producing vines.

According to Kirana, these complex systems play a sustainable role in ensuring food security, in particular from a nutritional viewpoint. "Incidentally, in almost all of these traditional agroforest systems, women played a central role in managing them," she said.

The stories under our Asian Focus in this edition are about the diverse ways in which agroforestry methods are being applied in the ASEAN region. «