



Above: A rattan harvester cycles his day's work home from the surrounding hills. Robin Taylor

Left: Locals have traditionally sourced firewood and other domestic necessities from Bach Ma's forests. Tropenbos International

New approaches for traditional ways

Things are looking up for the traditional villagers around Bach Ma National Park in Vietnam's highlands. A cooperative international project is teaching them new farming methods that both help preserve their protected region and increase their incomes. **Robin Taylor** reports.

The green stems of the choko plant (*Sechium edule*) are a popular vegetable in Vietnam. Harvested in the clean mountainous regions, they fetch a high price in the markets of Hanoi. Mr Tran Huu Nghi, Director of Tropenbos International's Vietnam program, was explaining this to me near the summit of Bach Ma Mountain, when he leapt back from the plant he was approaching to reveal an extremely well camouflaged snake, wrapped around the stems. Clearly harvesting wild plants on Bach Ma can be hazardous.

For villagers living on the borders of Bach Ma National Park, life itself has been precarious. During the Vietnam war (known in Vietnam as the American war), the US army used the summit of Bach Ma Mountain as a helicopter base. A lot of heavy fighting took place in the surrounding area, destroying large tracts of forest.

Lying in Thua Thien Hue province of central Vietnam, the park consists of 22 031 hectares of forest in its core (protected) zone, surrounded by a further 21 300 hectares of buffer. National Park status was established in 1991 to protect the region's biodiversity and it is now important as part of a green corridor extending from the Vietnam–Laos border to the South China Sea. More than 1400 plant species have

been recorded, including a large number of valuable medicinal plants.

Like other national parks in Vietnam, however, Bach Ma is under intense pressure. More than 65 000 people live in the park's buffer zone. They grow crops and raise livestock on small plots of land, and they also rely on forest resources for their livelihoods – wild animals, fruit and other edible plants, such as choko stems for food, and firewood for cooking. If the wildlife and habitat in the national park is to be protected for future generations, the villagers need alternative sources of food and income.

To meet this challenge, a project involving Hue University of Agriculture and Forestry, Hue University of Science, the University of Queensland and Bach Ma National Park (under the Ministry of Agriculture and Rural Development), funded by Tropenbos International (a Dutch non-government organisation concerned with forest management), has been working with villagers in the buffer zone to develop improved farming systems that are environmentally sound, provide increased income and offer alternatives to exploiting the park's natural resources.

Fifteen households from Khe Su village, located near Bach Ma Mountain, the area of the park which attracts the most visi-



tors, participated in the project. Khe Su contains 51 households with a population of 262. According to the village leader, Mrs Nguyen Tham, growing agricultural crops and raising livestock are staple traditional activities carried out by every household. Productivity, however, has not been high and farmers incomes are very insecure.

In fact, livelihoods have been affected by restrictions imposed in the last two years since the outbreak of bird flu. Villagers have not been able to expand poultry production and in some cases flock size has been reduced. But things are looking up.

'In recent years, thanks to the concern of government and a number of projects, productivity has been improved. The main tendency is to develop the gardening-hill economy and agroforestry,' says Mrs Tham.

Under the recent cooperative project, new farm models have been established to



Above: Mr Tran Huu Nghi, Director of Tropenbos International's Vietnam program.

Robin Taylor

Top left: A local woman tends rows of spring onions grown to newly taught methods.

Tropenbos International

Left: The white-lipped tree viper, *Trimeresurus albolabris*. Tropenbos International

Right: A local vendor at Cau Hai with the fruits of new farming methods. Tropenbos International



grow fruit trees (including betel nut and banana), native tree species, vegetables, improved stock fodder plants and home gardens. The farms involved have become model farms, where other farmers can visit and learn.

Farmers have experience growing some types of plants and raising livestock and through the project they have been introduced to new species such as rubber trees, balm, acacia, mango, rambutan and other tropical fruit trees.

Agroforestry plots have been developed on some of the participating farms. Mixed species tree plantings are being grown on sloping land, testing different layout designs for fast-growing acacia species with slower growing, high-value indigenous trees.

Project leader Dr Peter Dart, from the University of Queensland, explains that farmers newly given rights to land are, not surprisingly, going for the safest and quickest cash option with their tree plantings.

'These type of projects need long-term support to change the mindset of farmers and show them how other systems of tree planting that are better at conserving biodiversity can exist alongside the short-term cash flow systems currently in favour,' he says.

Farmers have attended training courses on a number of activities including pig husbandry, growing fruit trees, growing bamboo for buds, cutting trees, grafting branches, breeding pigs, aquaculture and growing rubber trees.

The project team has also started discussions on the establishment of a marketing scheme for organic horticultural products from villages in the buffer zone.

Another new priority for villages like Khe Su is the development of tourism.

Since the opening of the national park and development of walking trails and accommodation, many tourists have visited Khe Su village, bringing with them increases in revenues and new opportunity.

'It is too early to assess the increase in farm incomes,' says Mr Nghi. 'But, the combination of these activities has potential to greatly increase farm incomes, while respecting the environment.'

'Improved farm output includes tree products like firewood, fruits and timber. The demonstration farms are now ready for visits by other farmers.'

The project has wider implications for implementing sustainable management in buffer zones of other national parks in Vietnam and other parts of Asia.

Dr Dart said other agencies such as World Wildlife Fund (WWF) had adopted the concept and approach used in the project.

'The project concept of a hands-on approach to environmental management and biodiversity conservation issues certainly resonated with Dutch Government visitors to the Tropenbos program and with other international development projects based in Hue (the nearest city to the park),' he said.

'The need in Vietnam is for research that leads to policy outcomes and practical ways of making an impact that improves environment and biodiversity conservation and natural resource management.'

Dr Dart says there is a desperate need for improvements to the land allocation process in Vietnam so that further areas are set aside for environmental protection and biodiversity conservation. Forestry techniques also need to be better informed.

'Short rotation trees such as acacias and

eucalypts are being planted on slopes that are too steep, leading to horrific erosion and a potential rapid decline in soil fertility in one or two rotations of six to eight years,' he says.

Another Tropenbos project in Bach Ma National Park has provided guidelines on the sustainable planting and use of rattan for local people. Rattan, harvested from the forest, is another important source of income. The long branches are used for construction, household furniture, brooms and tools.

Run by the Forest Planning and Inventory Institute, Utrecht University in the Netherlands, Missouri Botanical Garden and the Institute of Ecology and Biological Resources, the project found that the number of rattan plants in the natural forest had fallen rapidly over the past 10 years and the two most popular species will disappear altogether within 10 years if exploitation continues.

They recommended that rattan should be planted in areas of degraded forest to increase the volume available over the next decade.

The cooperative projects around Bach Ma are successfully demonstrating new options for Vietnamese farmers to improve their incomes while also protecting and appreciating the value of their local natural environment. The next step is to extend the work to other villages and farms near the park's borders.

● **Robin Taylor**

Robin Taylor worked as a volunteer with the Forest Science Institute of Vietnam.

More information:
Tropenbos International: www.tropenbos.org
Bach Ma National Park: www.bachma.vnn.vn