



Audrey Selzner (center), an intern with CIFOR and IRD, conducts a quantitative food survey in Kuala Rian, East Kalimantan. (Photo by Edmond Dounias)

Diet, disease and livelihoods in Borneo's forests

These are difficult times for many indigenous, forest-dwelling communities. Over much of the tropical world, forests are under threat from logging, mining, road-building and other activities. While contact with the outside world has undoubtedly brought some benefits to remote communities, the changes which are occurring are frequently rapid and often destructive. But how precisely, does this affect the livelihoods of forest dwellers such as the Punan of Borneo?

To find out, CIFOR scientists, seconded from the Institut de Recherche pour le Développement (IRD), conducted a comparative study of two very different Punan communities. Over a three-year period they compared the health, diet and livelihoods of a remote community which still practises hunter-gathering in the Upper Tubu Valley in East Kalimantan, with settled Punan living in Respen Sembuak, a suburb of the district capital, which is well-served by medical facilities, schools and markets.

The research team analysed over 1200 individual food dishes in the Upper Tubu, assessing the quality of diet and seasonal fluctuations. They also measured the weight, stature and fat condition of over 800 people, and analysed blood, urine and faeces. This enabled them to build up a detailed profile of each individual's health. Similar research, measuring the same parameters, was undertaken in Respen.

'With their higher incomes, better education and lower child and infant mortality, the downstream Punan in Respen

would appear to be much better off than their cousins in the forest,' explains agro-economist Patrice Levang. 'However, the situation is much more complex than it seems.' The research revealed that for most of the year, and contrary to expectations, remote villagers have a healthier diet than urban Punan and are better nourished.

But there is a downside to living in isolated communities. From time to time epidemics lead to significantly higher death rates in the Upper Tubu, especially among children. For example, during a two-month period in 2002, 28 children in two small villages – almost half the children there – died during an epidemic. Punan living in remote communities have recently come into contact with diseases, such as measles, to which they have little or no immunity. In contrast, Punan who have been living downstream for some time have greater immunity to these diseases, as well as access to health care.

The findings of the study were presented to a 'restitution workshop' in Malinau, the district capital, in April 2005. The research was well received by the local authorities, and the scientists believe the workshop discussions and follow-up meetings are helping to change their views. 'The local authorities have always assumed the best way to help the Punan is to get them out of the forests and turn them into farmers,' explains ethno-ecologist Edmond Dounias. 'However, our research suggests this isn't necessarily the best solution.'

Dounias and Levang believe that the experience of another remote – but accessible

– settlement provides a telling example of how Punan can survive, and survive well, far from places like Malinau. The village of Sule Pipe has an airstrip. It also has a health dispensary and a permanent school. The Upper Tubu has none of these, and it shows. Sule Pipe has levels of infant mortality similar to Respen, but a third of those of the Upper Tubu. The children of Sule Pipe are much better educated than those of the Upper Tubu, and household incomes are three times higher. 'Supplying remote communities with an airstrip provides access to urban facilities, such as health care, without opening up the area to excessive exploitation by outsiders,' says Dounias.

In the meantime, strenuous efforts are being made to improve the health of the Punan living in the Upper Tubu. In 2005, a memorandum of understanding was signed between CIFOR, the local health authority in Malinau and Médecins du Monde, which has recently begun work among remote and seriously disadvantaged communities in Indonesia. Doctors from Médecins du Monde have made lengthy visits to the Upper Tubu,

accompanied by CIFOR researchers, and five young Punan have been trained as health assistants. The individual health profiles provided by the research team have provided the doctors and health assistants with valuable background information.

Forest dwellers have always had to adapt to changes in forest ecosystems, but the changes they face today are much more dramatic than those of the past. Now they must cope with the cash economy, deforestation and other changes, including their own shift from a nomadic to sedentary lifestyle. Survival requires new strategies and a new way of thinking. 'We believe our research can help forest dwellers evaluate the choices open to them, so that they can make decisions which not only satisfy their immediate needs, but those of future generations,' says Dounias.



Meli Matius, a Punan health worker trained by Médecins du Monde, interviews a Punan woman. Punan women in remote settlements have on average 8.5 pregnancies. Only half result in a child who lives beyond the age of 5. (Photo by Misa Kishi)

Sharing the research findings



All too often, scientists fail to share their findings with the people who have done most to help them – the individuals and communities which have been the objects of their study. Not surprisingly, this frequently leads to resentment. From the outset, the researchers from CIFOR/IRD pledged that they would share their results with the local community. This they did at a restitution workshop, held in Malinau and Respen in April 2005. The workshop was attended by members of the Punan communities, government officials, international donors and conservation groups. It received widespread coverage in the local and international media.

'Our main goal was to give the research results back to the Punan and the local authorities,' explains Edmond Dounias. The researchers were able to show the Punan of the Upper Tubu that in many ways they were better off than they believed. 'We also had a clear message for the local authorities,' says Dounias. 'We wanted to show them that the Punan are not savages, and that if local government wants to help them, they can do so without forcing them to leave the forest.'

Besides presenting local communities with the findings of the research, the workshop helped to establish new lines of communication between the local authorities and the Punan. The researchers believe that this heralds a new era of better communication. Haryanto, a Punan from the Upper Tubu, spoke for many when he said that the Punan and the local authorities needed to work together. 'The poor education in the Upper Tubu is not something we can tackle on our own,' he said. 'I propose that the local government should provide buildings and maintenance costs, but we should find the teachers from our own community.' Likewise, the Punan at the workshop recognised that health-care provision needs to be a joint venture between community and local government.

A workshop to share research findings was held in Malinau and Respen in April 2005. (Photo by Misha Kishi)