Moving the periphery to the centre: indigenous people, culture and knowledge in a changing Yunnan
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This chapter deals with the situation of ethnic minorities in China’s Yunnan Province, ‘peripheral people’ – both geographically and sociopolitically – living at the fringes of the Chinese state. We discuss central ethnic and development policies which have affected the lives of Yunnan’s diverse people since the 1950s.

China’s recent transition from central planning to a market economy has triggered many economic and sociocultural changes among Yunnan’s ethnic groups. There has been a shift from communal systems to those in which the individual household is the key unit. There has also been a shift from a predominantly subsistence economy to one in which external markets are much more important. Furthermore, a more decentralised policy and decision making system aims to increase local empowerment; village level elections are one example.

Despite these transformations in Yunnan, since the 1980s the economic gap between China’s eastern and coastal regions, and the western parts of the country has increased. This is for many reasons, including the coast’s more attractive geographic location for investors and the willingness of the state to cede some control and encourage private sector-led economic development in various eastern and coastal provinces. In an effort to bridge the gap, the Beijing government has adopted a Western Development Strategy. At the same time, the Kunming provincial government centre is promoting Yunnan as a Great Cultural Province and a Green Economy Province, focusing on its cultural and biological diversity. Through these policies, ethnic cultures, as well as indigenous sustainable natural resource use, are now seen as cultural assets for socioeconomic development. These policies illuminate the strategy of Chinese decision makers in the formal government spheres of politics. However, it seems to us that indigenous peoples are still treated as passive objects in state activities related to the use of natural resources and cultural ‘preservation’ and ‘conservation’.

In this chapter we want to give the reader a heightened appreciation of the positive attributes and ingenuity of Yunnan’s ethnic minorities. We argue that rather than being peripheral to the state and the Han majority culture, ethnic
minorities should be supported by the state in their efforts to become more truly autonomous and actively involved in centre policy formation. We would like to see such a heightened appreciation reflected more in the political processes of the state centre – at national, provincial and local levels.

Yunnan, the roof of Southeast Asia, is home to 42 million people. Twenty-five ethnic nationalities are recognised by the state, accounting for 31% of the province’s population. The vast majority live in the mountains which cover 94% of Yunnan’s total area. The Han mostly inhabit lowland valleys and urban areas. China’s international border stretches 4,060 kilometres along Yunnan’s western and southern flank, where eight prefectures border Myanmar, Lao PDR and Vietnam, and where 13 ethnic groups reside, both in China and in neighbouring countries. Since ancient times, people have been crossing borders to visit friends and family, for crossborder marriages and to conduct trade. The distinct ethnic minorities inhabiting Yunnan’s upland ecosystems practise various forms of agriculture. These include the hillside terraces for rice and vegetables of the Hani and Yi peoples, the complex agro-ecosystems of the Dai and Bai, and the swidden practices of the Miao (Hmong), Lisu and Jingpo. In addition to these are agro-pastoralists of Tibetan descent.

As Yunnan becomes more integrated into the market economy of China and Southeast Asia, cultural attributes such as diversity, indigenous knowledge and skills become valuable social capital for the benefit of all: ethnic people, the state and the region. We reject any notion that ethnic minorities are not of central importance to ‘regional development’. We believe the rights of all peoples should be supported in state policies. Economic development is not an end in itself. There must be broader social objectives. All people have the right to participate and to make choices, and also to benefit from development. But, what type of development is it to be? Policy makers have an obligation to support the empowerment of peripheral people through political reconstruction and institutional arrangements for the transition to a market economy. This will enable them to contribute more meaningfully to local, national, regional and global society.

In addition to discussing autonomy and state development policies, we present four Yunnan examples of valuable indigenous knowledge. Such knowledge is key if peripheral people are to succeed in adapting to the changing world, changing Chinese state and changing Mekong Region.
Key concepts

We start by introducing some key concepts which underpin our approach and this chapter.

Culture

We use this term to mean: 1) human processes of material transformation of nature and 2) the collective creation of meaning about reality (Thompson et al. 1990). We refer specifically to cultural diversity as it is used in the discipline of ecological anthropology, stressing the different ways in which people interact with each other and create original ways of life as hunter-gatherers, farmers, shifting cultivators, nomadic herdsmen, city dwellers etc. The ‘culture’ associated with these ways of life encompasses language, knowledge, means of livelihood, political organisation, social arrangements, religious institutions, psychological ideas, cosmologies, and value systems. Each way of life is a unique and complex human creation and none is superior to any other (Carrithers 1992).

In this sense we distance ourselves from the classical definition of culture originating in Chinese Confucianism. 

Ethnicity or ethnic identity

This is a social process of awareness and representation of a group that can be traced back to a common ancestor, real or imaginary. It is a sociocultural construction of the uniqueness of a group expressed in cultural traits or markers and perceived in opposition to other groups. For example, Yi people from Chuxiong trace their ancestors back to people who were ‘saved’ by plants like mei wei lu (Rhododendron delavayi Fr.), nuo mei wei luo (Rhododendron decorum Fr.), ta zai (Pinus yunnanensis Fr.) and other plants that since then have become the benefactors of human society. In every Yi household one can find...
*popos* on the wall of the kitchen or main room *popos*; human forms made with crude paper and different plants that represent their ancestors. Yi people see themselves as plant worshippers who mirror a particular bond to nature which differs from forms of worship existing among other ethnic groups in Yunnan (Lui Ai-Zhong et al. 2000).

Ethnicity is not just related to the past, it also encompasses a vision of the future related to the formulation of ethnic demands within a larger society and a mainstream culture. Usually ethnicity results from the interplay of a ‘we-feeling’ of the people themselves delimited by the powerful interpretations of other social actors, like national policy makers, social scientists, researchers and development workers. This is the case with most ethnic groups in China. Ethnic identity is the key element that prevents them from being assimilated completely.

**Nationalities**

‘Nationality’ is the official term adopted in Chinese policy to refer to the cultural diversity of minority peoples. Early policies towards minorities assumed that nationality and ethnic distinctions would disappear as class differences faded and a homogeneous proletarian culture came into being (Freyer 1976).

Despite various policy proclamations and legislative modifications that have increased participation and autonomy of ethnic groups (see Box 1), ‘development’ work still takes place in China with clear directions mapped out for the future of minorities. There remains a tension between centre concerns about political stability in a multi-cultural state and periphery efforts to open space for ethnic membership in the larger polity.

**Peripheral people**

This term was proposed by Stevan Harrell (1995) to avoid using the term ‘minorities’, since the latter refers to a subset of people living in a modern nation-state and implies complicity with the largely Leninist project underway when the term ‘national minorities’ was coined. By using the term peripheral people, Harrell stresses an interaction between different peoples in which one group (the ‘civilising centre’) interacts with other groups (the peripheral people) with inequality as the ideological basis. The centre presumes its own civilisation is superior and may take upon itself a ‘noble’ commitment to uplift peripheral people.

The peripheral people of Yunnan are distant from the majority and mainstream sociopolitical centre of the Chinese state. We look at the peripheral people – ethnic minorities and/or indigenous people – in a positive manner, noting they often have strong customary institutions and self-identity. We also highlight their often profound indigenous knowledge and skills, living in places which are comparatively rich in natural biological resources.
The richness of cultural diversity in China is undeniable. From the state’s point of view, peripheral people also often have extra strategic significance as residents of ‘frontier’ and border areas. The relationship between the state and ethnic minorities has a direct impact on internal and external stability (Heberer 2000).

Since the People’s Republic of China was founded in 1949 there have been many state interests in peripheral people. Ethnic minorities were all designated as minzu\(^1\) and hence were integral part of the new Chinese state. Hence, minority policy was inseparably and intrinsically linked to national development efforts. In the early 1950s, the central government adopted the Soviet Union’s minorities policy as a model. The state employed several methods, combining Marxist-Leninist theories and Chinese practice, to accelerate the process of integration (assimilation) of minorities into the national state. But first, they had to know just who was in the state. The state sent work teams to the southwest to carry out large scale social research that would underpin subsequent efforts to facilitate social transformation. This was a part of the nationwide ethnic classification project (*minzu shibie*). By the time land reform was concluded in most parts of Yunnan, 21 ethnic categories (out of 260 initially reported in the province) had been ‘approved’. They were delineated fundamentally according to state concerns about political stability in the border areas and administrative integration. In many cases, groups who shared common cultural traits were divided and other groups who had distinctive cultural practices were merged. This is why the Mosuo were identified as a branch of Naxi and why the homeland of the Mosuo was transformed into a Yi autonomous county (Xiaolin Guo 2000).

After ethnic classification, the state established ‘autonomous’ regions and implemented education and development plans (Box 1). Despite flaws in the underpinning *minzu shibie* logic and approach, the fact remains that the Chinese government recognised the minority groups as nationalities. This was the first historical attempt by the predominant Han society to give political and legal status to the peripheral people. The actual extent of autonomy which was and is granted by the centre is debatable.

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\(^1\) Keyes (2002) draws on the work of Crossley (1990) to explain that *minzu* is based on ‘min’ meaning people, and ‘zu’ meaning a group of people acquiring kinship over time. These anthropologists recognise that the term *minzu* took on new significance, probably from the 1920s on, when it began to be considered with reference to Soviet theories of nationality.
Box 1  Autonomy policy

Some liberalising after 1978 has extended the degree of autonomy, with the centre now claiming to bestow (Heberer 2000):

- Political autonomy. For example: virtual self-administration and self-determination to be legally warranted in autonomous units; leading positions and other offices to be filled by members of the minority given autonomy in a region; official use of local language and writing system.

- Economic autonomy. For example: self-determination in economic development within overall national development programmes. Development measures to be derived from local conditions and potential and to serve primarily local needs with a view to material advancement.

- Cultural autonomy. For example: freedom to decide whether to maintain or reform customs and habits, educational systems and health services to meet specific needs of local minorities.

The Minorities Regional Autonomy Law 1984 contains the following main points related to the rights of autonomy and autonomous administration (Tan Leshan 2000):

- Autonomous administrations are empowered to formulate autonomous and specific regulations in connection with the political, economic and cultural features of each area. Based on the specific situations of each area, autonomous administrations are authorised to make special policies and take flexible countermeasures that are in line with the national constitution and laws.

- Upon approval from higher authorities, national resolutions, decisions, decrees and instructions may be adjusted, or their implementation may be ceased, if they are out of step with the practical situation of the autonomous area.

- Autonomous administrations shall independently arrange and manage the course of regional economic development under the guidance of the national plan.

- Autonomous administrations are authorised to manage their own financial affairs.

- Autonomous administrations shall independently manage education, science, culture, public health and sports.

- Upon approval by the State Council, in line with the national military system and the practical demands of the local areas, autonomous governments may organise law enforcement to maintain social order.

- Ethnic language(s) widely used in the local area shall be used in autonomous government administration.

- The administrative head of an autonomous region, prefecture, or county shall belong to the majority ethnic group.

Since the 1980s, reforms have focused on decentralisation and there has been an abandonment of some of the Party’s old ideologies. This has contributed to some greater emancipation at local levels. However, decentralising institutional
arrangements has not necessarily led to greater empowerment of ethnic minorities. An awakening of the ethnic consciousness (regarding civil and other rights) has led to a wave of petitions appealing for rectification of ethnic identification discrepancies. Under the circumstances, the state was forced to implement some new policies. While border stability remained its primary concern, the state has allowed certain ethnic groups to use self denomination (while not formally granting a minzu title), while increasing financial subsidies in these areas, to ensure that the ‘minorities among minorities’ were not left out of the preferential treatment shown to the registered minzu.

There are 159 autonomous areas governed by the *Minorities Regional Autonomy Law 1984* (Box 1). Of these, five are autonomous regions (Inner Mongolia, Guangxi, Ningxia, Tibet and Xinjiang), 30 are prefectures, and 124 are autonomous counties. In other non-autonomous areas, more than 1,500 minority townships with autonomous administration have been established. By the end of 1990 these autonomous areas made up 64.5% of the country’s land area, including more than 66 million people from ethnic minorities. That means 77% of all minority people in China now live in these autonomous areas. Autonomous regulations have concentrated on specific decrees about culture, education, language, script, marriage, inheritance, family planning as well as the management of forests, grasslands and other land uses.

**State development strategies**

Heberer and other specialists warn of the significant potential for ethnic conflict due to liberalisation, reform policies, and the process of modernisation, which can threaten ethnic identity, cohesion and modes of life. Rapid social change can have a boomerang effect on local people. The insecurity of externally driven development turns people back to their ethnic cultures for protection (Heberer 2000). In Yunnan, an important reaction to state minority policies involves the central theme of economic development.

Due to the high concentration of ethnic minorities in the province, both state and local authorities have sought to promote ideals of ethnicity. At sub-provincial levels, the government has been enthusiastically developing local tourism, with ethnic cultures a prominent feature. While the higher level of government is engaged in using local cultures for economic development, the minorities assert their rights to get rich. For instance, Mosuo leaders reveal an instrumental rather than internalised use of state ideology concerning ethnicity. This suggests that ethnic minorities do not merely accept the state delineation of ethnicity passively, but have instead learned to employ the state-formulated concepts to their own advantage (Xiaolin Guo 2000). Nevertheless, government policies and the expansion of regional, national and international markets are among the most powerful contemporary forces influencing local cultures and landscapes. These forces are positive in some cases, but not in others.
These few points are worth bearing in mind when considering a recent suite of state-led development strategies influencing Yunnan’s future: Agenda 21, the Western Development Strategy, the Great Cultural Province and Green Economy Province (CBIK 2002).

**Agenda 21**

As with many other countries, the Chinese government formulated a country response to the 1992 Rio Earth Summit (UNCED 1992). China’s Agenda 21 (PRC 1994) stresses the importance of the participation of minority nationalities in overcoming environmental problems that are a consequence of modernisation and a growing economy. It recommends several measures to encourage the full participation of ethnic and religious minorities in the Chinese ‘sustainable development’ effort, including:

- Continued support for autonomy and provision of even greater roles for minorities in policy making.
- Supporting the right of minorities to manage their land and other natural resources.
- Reinforcing respect for unique ethnic cultures.
- Training local leaders and general boosting of ‘sustainability’ education.
- Minority involvement in formulation of management plans for the conservation of natural resources.
- Incorporating minority value systems, traditional knowledge and traditional ways of resource management.
- State technical support for pollution-free production methods.

However, the policy has since been suspended by central government, which means that there is no institutional or financial mechanism for its implementation.

**Western Development Strategy**

In the Yunnan context, China’s politically correct Agenda 21 – espousing extensive participation of ethnic minorities – has been overtaken by the Western Development Strategy, adopted by the national government in February 2000. This aims to combat poverty, industrialise the western provinces,\(^2\) including all

\(^2\) The Western Region comprises five autonomous regions, six provinces, and one municipality with the status of a province. In 1999 the Western Region contained 28.8% of China’s population, 61.9% of total land area, but accounted for only 15.8% of gross domestic product. It includes the provinces of Sichuan, Guizhou, Yunnan, Shaanxi, Qinghai and Gansu; plus the autonomous regions of Tibet, Ningxia, Inner Mongolia, Guangxi and Xinjiang; plus the municipality of Chongqing (ADB 2002).
mountain areas, and promote the transfer of science and technology from the centre to the periphery. It is focused on conventional economic development and the views of ethnic minorities have not, and probably will not, be included in its implementation. The strategy stresses the need for infrastructure investment in the middle and western provinces of China with special emphasis on transport, telecommunications, pipelines, electricity and the national power grid and water conservation. In particular, transport investment is expected to focus on better economic integration between western, central and eastern China, and also on improving economic linkages with Southeast Asia.

The coastal zone of China has benefited most – in terms of economic growth – from the economic liberalisation following the adoption of Deng Xiaoping’s famous ‘Open Door Policy’ since 1978. This is due both to the coast’s position as the economic centre for international trade, and to more favourable state policies. Rapid economic development has increased the socioeconomic gap between the coast and China’s western region. However, the Western Development Strategy is now seen as key to at least partly bridging the gap between the coast and the west. Land-locked Yunnan is now envisioned as a geographic and development centre for regional economic integration with Southeast Asia, particularly via the Mekong Region.

The Western Development Strategy is based on the unstated assumption that the west of the country is inhabited by indigenous minorities who lack the skills and capacity to catch up with the development pace of the nation as a whole. Therefore, the assumption goes, help is needed from the coastal region through technology transfer and attention from governmental officials and technical advisors in management, farming and planning. Sending leaders of peripheral people to the centre for training is also recommended. However, the programmes under the strategy fail to address ways to support indigenous people’s participation in planning and decision making or to secure their access rights to natural resources. The same neglect of indigenous knowledge and ethnic minorities can be seen in the collection and protection by the state of agro-biodiversity resources, such as grain crops and domestic fowl and livestock. Ideas like in situ conservation and co-management have recently been discussed but not implemented. The Western Development Strategy initiative is rooted in a conventional economic development paradigm whereby Yunnan’s ethnic minorities – whilst now geographically centred – remain socially and politically peripheral.

**Great Cultural Province**

Following the rapid development of Yunnan’s tourism industry in the 1980s and 1990s, a second strategy was to promote Yunnan as the Great Cultural Province in order to capitalise on its cultural diversity and find a niche in the international and Han Chinese tourist industry. In practice, this has focused on identifying
cultural assets, such as ethnic minority clothing, handicrafts, songs and dance etc., packaging them as saleable products and supporting the development of related enterprises.

**Green Economy Province**

A third strategy has been to make Yunnan into a Green Economy Province, in order to take advantage of its potential comparative advantage in natural biological resources. Recast as China’s ‘Kingdom of Plants and Wildlife’, this has involved bio-prospecting and development of bio-resource processing enterprises in line with the state’s economic goals, especially as an eventual alternative to Yunnan’s tobacco industry.

The China-ASEAN Free Trade Area (CAFTA) proposed by Zhu Rongji in November 2001 could eventually serve as a catalyst to accelerate the economic integration of Yunnan with the other countries in the Mekong Region. Proposed highway, railway and enhanced river links would join Yunnan with mainland Southeast Asia and the Indian Ocean. Integration-driven economic growth is expected to have a profound impact on both the environment and the livelihoods of indigenous communities, including indigenous cultures and knowledge about natural resources.

China’s entrance into the World Trade Organisation in 2001 is raising many challenges for Yunnan’s mountain farmers. The government is investing substantially in infrastructure and proposes an economic development model combining ‘leading’ enterprises, large scale plantations and farmers’ participation in the province’s mountainous areas. However, such a model has its risks. Market uncertainty for leading enterprises, the ecological dangers of large-scale plantations in mountainous environments, and the lack of transparent information for smallholder farmers have created a dilemma for indigenous people. Direct support for small-scale enterprises and the household-based ‘grassroots’ economy, with its greater diversity of products, might be a better solution for mountain farmers struggling in a very competitive regional market.

Historically, with social change following economic change, political decentralisation and regional integration have led to a new search for cultural identity among the ethnic minorities. In particular, the processes associated with globalisation are in many ways felt to threaten ethnic identity. Ethnic minorities, especially those who have lived in mountain periphery areas for many generations practising a highly autonomous subsistence system, are often socioeconomically vulnerable in the transition to a market system.

Development interventions by the institutional and economic power centre(s) are usually favourable to outsider investors, generally promote large scale monoculture plantations and aim at replacing the indigenous systems – described as ‘primitive’ and ‘backward’ – with an ‘advanced scientific’ system. Such
development interventions are often sector-based, technically oriented and lack sociocultural considerations.

The education system is oriented to integrate ethnic minorities into national society, leading to the assimilation of scientific knowledge into indigenous knowledge systems. The status of indigenous knowledge systems has been declining. Not recognising its potential, young people tend to reject the wisdom of their elders. Traditional practices are labelled ‘superstitious’. All these issues are interrelated and contribute to the marginalisation of indigenous people, leading to further loss of self-confidence and the erosion of indigenous knowledge, itself contributing to more resource degradation and finally even more poverty and sociopolitical marginalisation.

**Biodiversity, indigenous knowledge and livelihoods**

Our view, a view shared by the Centre for Biodiversity and Indigenous Knowledge (CBIK), is that there is an inextricable link between cultures, languages and biodiversity which should be respected in all development initiatives. The Yunnan Initiative, developed at the Cultures and Biodiversity Congress (CUBIC 2000) calls attention to the large uncertainties that local (and indigenous) cultures face as they strive to use, nurture and sustain the diverse landscapes in which they live and on which they depend.

We present some case studies to highlight the potential of peripheral people to cope with rapidly changing biophysical and socioeconomic environments in a context of transition to a market economy and globalisation. This potential challenges our policy makers to support indigenous initiatives of innovation, self-governance, benefit-sharing and economic development. The first two cases are from southern Yunnan: Hani shifting cultivators in the uplands and the Dai paddy-rice cultivators in the lowlands of Xishuangbanna Prefecture. The two cases from northwest Yunnan discuss Tibetans in the high plateau of Deqing Prefecture and the Naxi in the valley of Lijiang Prefecture. Central to each are the concepts of biodiversity, indigenous knowledge and livelihoods, discussed below.

**Biodiversity: a form of natural capital**

Biodiversity can be seen as a social product which combines the knowledge and technology of scientists with that of local people. In this sense there are social networks and actors with different goals and methods for generating, governing and sustaining biodiversity. For example, many international scientific institutions, botanical gardens, pharmaceutical companies, development projects,

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3 CBIK is a non-government organisation based in Kunming. Its goal is to aid the conservation of nature and culture, and promote socially equitable and environmentally sound development in the mountainous ethnic minority areas of southwest China.
and others see genetic material mainly in economic terms and are concerned about the rapid pace of genetic erosion world-wide. Such a view emphasises that threats to biodiversity can be managed by appropriate legal mechanisms, with intellectual property rights as the chief method employed in the economic use of biodiversity (Escobar 1995).

Agro-biodiversity is a product of many generations of selection and experimentation by rural people through cultural practices under natural conditions. It has resulted in great genetic variability of cultivated plants and domesticated animals.

For local people, biodiversity is conceptualised as life that emanates from the animal, plant, human, and spiritual worlds. It can be observed in their classification systems or taxonomies, and in seeds, food, fibre, medicine, cosmetic, dyes and ritual offerings. It is conserved because it is useful according to traditional values and meanings of local culture. In this sense genetic diversity and culture are inextricably linked; each influences the other. The extension of this is that sustaining biodiversity cannot be detached from the defence of local identities and territories, the homelands of plants, animals and people’s spirituality (CUBIC 2000).

**Indigenous knowledge: a form of social capital**

Knowledge is an ongoing process of social construction that occurs in the mind. In that sense, indigenous knowledge refers to the mental constructions generated and used by indigenous groups (Long and Long 1992). Indigenous knowledge involves technology and practices, as well as ideas and symbols. It is wisdom encoded in the languages of indigenous people and provides them with different ways to interpret and act in their local environments. It is a cultural term, since it implies mental categories and ways of knowing created and shared by indigenous groups elaborated and expressed in stories, songs, proverbs, dances, myths, values, beliefs, customary laws, taxonomies etc. In that sense indigenous knowledge systems obviously differ from Western scientific knowledge. The differences are also evident when we face indigenous ways of knowing based on concepts of the world as a reciprocal relationship between human beings, spirits and natural beings, all three constituting an inseparable unit and nurturing each other.

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4 During Yunnan’s Cultures and Biodiversity Congress in 2000, an aboriginal Australian participant danced his song lines, the specific territories of his totem area, as he explained he drew a map represented with music and movement.

5 This topic, Cosmovision, was the focus of a subplenary during the Cultures and Biodiversity Congress as well as a permanent discussion group. The output will be published in *Entoecologica*, produced in Mexico.
Indigenous ways of knowing are site specific and based on natural cycles and long term changes intertwined with particular conceptions of time and space. Therefore it is very difficult to understand the knowledge of indigenous people through short field visits and without knowing the specific linguistic terms used in the classification systems for climates, soils, seeds, plants, animals, trees and resources.\(^6\)

Although an integrated body of knowledge is shared in a community, indigenous knowledge is not equally distributed among all community members. Elders, women, men and children possess specialised fields of knowledge stemming from their roles, responsibilities and ages. Some people are recognised for their special skills in health, like the *Nipa* in Akha society. The *Nipa* masters nutrition, human disease classification, methods of using herbs and other remedies, several types of treatment, the location of medicinal plants etc. In the same ethnic group there are other people, the *Zoema*, who are skilled in local organisation for the management of resources. The *Bimo* is particularly knowledgeable about the rules and rituals for the use of forest resources, plants, animals and the fertility of human beings, soil and many other domains.

To understand traditional indigenous knowledge more fully, researchers should consider the following dimensions (Warren 2001):

- Indigenous technical knowledge. For example, including local classification systems for plants, wildlife, soil and microenvironments, and livelihood practices for farming, gathering and managing natural resources.
- Indigenous organisation, perhaps via local community chiefs, resource-use groups, and informal associations.
- Indigenous institutions noting the norms and rules, social relationships interlinked with technical knowledge and power for decision making and social interaction and processes.
- Indigenous innovations, such as experimentation and on-farm trials which are helpful for identifying ways that people further develop knowledge or refine their existing knowledge about natural resources.
- Indigenous learning processes in order to see how people help each other learn or share knowledge and information about natural resources, both within and between generations, from different sources of knowledge.
- Indigenous epistemologies, values and belief systems in order to understand how indigenous knowledge and practices have been socioculturally

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\(^6\) The cultural use of time among Yi people has been studied by Professor Liu Yao Han. During the field visits in Xishuangbanna and Zhong Dian we were exposed to agricultural calendars which form a part of the cultural heritage of Dai and Tibetan people.
constructed, as well as to understand historical and cultural symbolic meanings of resources.

**Sustainable livelihoods**

The concept of sustainable livelihoods has emerged over the last decade with increasing legitimacy through the attention of several major international forums. The report of the Brundtland Commission (WCED 1987) introduced the concept of sustainable livelihoods with a focus on resource ownership and access, basic needs and livelihood security, especially in rural areas.

The Agenda 21 document (UN 1993) which emerged from the Rio Earth Summit noted the integrative power of the concept, which offers a way of linking socioeconomic and ecological policy considerations in a cohesive policy-relevant structure. Agenda 21 also first referred to ‘sustainable livelihoods for all’, which when seen in the context of the unsustainable production and consumption patterns of the industrialised world, made the sustainable livelihoods concept as relevant for the ‘North’ as it is for the ‘South’. Livelihood sustainability becomes a function of how men and women use assets on both a short and long term basis. Sustainable livelihoods imply:

- Ability to cope with and recover from shocks and stresses.
- Economic effectiveness, or the minimal use of inputs to generate a given amount of outputs.
- Ecological integrity, ensuring that livelihood activities do not irreversibly degrade natural resources within a given ecosystem.
- Social equity, which suggests that promotion of livelihood opportunities for one group should not foreclose options for other groups, either now or in the future.

In other words, sustainable livelihoods imply the capability of people to make a living and improve their quality of life without jeopardising the livelihood options of others, either now or in the future.

A characteristic of rural livelihoods is people’s ingenuity and opportunism for engaging in several diverse and complex activities as a basis for survival. Rural people’s livelihoods are not usually based on one source or one job. They maintain a portfolio of activities. These are performed individually or at household or village level and over different time frames, such as a day, weeks, months or cycles of many years. Therefore, it is difficult for outsiders to fully understand survival strategies. They only see a fraction of the complex repertoire and tend to standardise or summarise a complex reality, noting only the most obvious activities like cash-crop cultivating or livestock rearing. Often home gardening, fishing, hunting, collecting of common property resources, or processing of many crop residues and other sustainable activities tend to be
overlooked. Since many outsiders have a fixed idea of livelihood as a remunerated form of employment – a job, in other words – they often fail to identify sustainability in the local sense. This consists of a diversity of activities and social relationships pursued to gain food, reduce vulnerability and improve the quality of life in local terms, which includes spiritual as well as economic well being (Chambers 1997). The aim of the following four case studies is to display this diversity and the interconnections between many activities and bodies of knowledge.

**Case studies**

**Hani people’s use of rattan in shifting cultivation**

Wild rattan (*Calamus* spp.) has been almost totally depleted in the tropical and sub-tropical areas of southern Yunnan since the early 1990s through logging of tropical forests and the distribution of rubber plantations. However, the Akha people bordering Myanmar in the Mengsong community of Xishuangbanna Prefecture (1,500 metres above sea level) have sustainably managed rattan in the wild and cultivated it in their swidden-fallow fields for many generations. According to these villagers, the protected rattan forest, called *sangpabawa*, originated more than 200 years ago. In the early 1900s the chieftain (*tusi*) of Mengsong acted to further protect the rattan forest and issued a regulation limiting the number of rattan canes that villagers could collected for either farming tools, house construction or use in the annual *Yeku* Festival. Currently, the protected area is about 300 hectares.

The Mengson Akha communities have unique knowledge systems for managing natural resources and forests. The word for forest is *abosoula* which incorporates different forest systems according to their function and products. There are forests for building material (*lieshugejio*), cash crops (*naqiluogo*), enhancing landscape (*puchang*), for graveyards (*nagbiong*) and the *sangpabawa* forest for rattan, a part of the swidden cultivation system.

The Akha farmers manage the *sangpabawa* forest area by sowing or planting rattan in the swidden fields and transplanting seedlings, when they are strong enough, around the base of strong trees for the rattan to climb. The forest is cleared and managed so as to ensure efficient conservation, reasonable utilisation and stable output of rattan. Selective harvesting of rattan every three to five

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7 The state of China officially refers to the Akha people as Hani. However, we use the term Akha in this paper which is the term the people themselves prefer to use.

8 According to the Mengson legends of the Akha, their gods condemned them to death by strangulation because they had damaged both plant and animal societies when they cleared forest for swiddening. The people faked their death by swinging on rattan ropes and in so doing, tricked the gods. For centuries the Akha have held their *Yeku* Festival each year, swinging on rattan, to celebrate their survival.
years does not destroy the root system, allowing new shoots to come up. Rattan provides on the one hand a product for sale, as raw material or furniture, but is also culturally important for rattan rope swings for the Yeku.

Experienced men are in charge of this aspect of indigenous knowledge, but it is not hidden knowledge. Everybody learns how to maintain the rattan forest. The specialists go and collect the seeds, distribute seeds and seedlings to relatives and neighbours, produce seedbeds, and experiment in their plots with the highest diversity of species and varieties. The most experienced families use their diversified plots as demonstration sites for other community members. Through the community and through each household, knowledge is transmitted from elders to younger family members.

The indigenous practices of rattan cultivation have been well recognised and adopted by government officials and foresters after being disseminated by ethno-botanists in the early 1990s. State forests in Xishuangbanna have been ‘opened’ by government to allow farmers to plant rattan with the proviso that forest cover is maintained. In this case, indigenous knowledge has been integrated into mainstream scientific technology extension.

**Dai irrigation management institutions**

The Dai people, based in the lowlands of Xishuangbanna Prefecture, are among the earliest rice growing peoples (since 7000 BC) and have made great achievements in their traditional irrigation systems. The Dai people are closely linked to water. For them, water is the origin of life and they worship this natural element. In the Dai language, water is called nan. Water is more important than land for the Dai, as is revealed in the Dai word for land: nanling. The Dai concept of water is of such vital cultural importance that it shapes their perception of the environment as well as their settlement patterns. Dai people’s territories are always close to water, not in the mountains.

The Dai have for centuries tried to protect their environment, and their traditional irrigation system is a product of an ecological culture supported by institutions such as:

- High group cohesion responsible for the production of a great variety of rice and the maintenance of water reservoirs and channels following each year’s Water-Sprinkling Festival. Cooperation in building dams, channels, fences and fishponds was organised by the banmen, specialists in water conservation management. Banmen were responsible for distributing water at the village level, with their salary provided in common by the local clans.

- Cooperation between people of mountainous areas and the lowlands for the control and distribution of stream water.

- Intermarriage between people from Xishuangbanna and the northern parts of
present-day Thailand, who share similar ecological conditions, productive forces, language (same terms for places and types of rice) and religious beliefs.

- Cosmological proscriptions against over-exploitation of resources. Xishuangbanna has about 30 basins (meng) of various sizes and over 600 Dai villages. Each meng has a logsheman, a village spirit forest where animals, plants, water sources and everything else are holy and inviolable. The Dai have understood that if there is no forest there will be no water or paddy fields. Therefore the logsheman can be seen as a green reservoir.

- The Dai calendar, which is a study of rain, drought, sunshine and its corresponding ceremonies and rituals.

- Dai laws and regulations managing water resources. These originated in ancient times but were modified in 1950. They include strict rules on fishing, obligations regarding the construction of channels, uses of water sources, regular inspections by banmen and other officials.

- Dai technology to measure gradients based on local intelligence and creativity and a wide knowledge of mathematics, geometry, physics, and mechanics for the design and construction of irrigation infrastructure. A special feature of the technology is the use of bamboo as a measuring device, for conducting water, and for constructing dams.

However, rubber plantations were promoted in Xishuangbanna by the Chinese government in the 1950s and dramatically expanded in the 1960s and 1970s with the resettlement of Han Chinese from inland China as state rubber farm workers. Large areas of forest, both primary forest serving as the water supply for Dai paddy fields in the lowlands and Hani swidden-fallow fields in the midlands, were converted into large-scale state rubber plantations. The expansion of rubber plantations has significantly altered land use and land cover, as well as the hydrological function of forests. In addition, long-distance concrete canals financed by the state to maintain irrigation for the paddy fields have eroded traditional Dai social institutions.

Today, the vitality of the centuries-old Dai irrigation system is endangered by the worsening of ecological conditions due to conflicts between traditional knowledge and modernisation efforts (Gao Lishi 1998). An ancient culture is being sacrificed in the name of economic growth. The modernisation process is accused of ignoring the relationship between human beings and nature, destroying mechanisms for sharing social benefits, over-exploiting natural resources and lacking recognition of the importance of customary institutions for resource governance.
Tibetan women harvesting matsutake mushrooms

The matsutake mushroom (*Tricholoma matsutake*), which often grows in high-elevation pine-oak forests, has been a prized edible mushroom in Japan since ancient times, but the past few decades have seen a dramatic increase in both price and demand. So far it has never been successfully cultivated. Moreover, insect infestations in Japanese pine forests have decreased the availability of native matsutake. Together these factors are driving the Japanese to search for new harvesting locations. South and North Korea are the leading exporters to Japan, followed by China, particularly from northwest Yunnan. There is now growing awareness in Yunnan that increased harvesting pressure is causing the matsutake to disappear.

Deqing Prefecture of northwest Yunnan was traditionally inhabited by Tibetan agro-pastoralists who have a rich indigenous knowledge about rangeland and livestock management. Tibetans have traditionally collected matsutake for their own consumption and for local markets. In one area of widespread matsutake harvesting, Tibetan women previously earned almost half the family cash income from selling the mushrooms during the logging season. The women have developed skillful technologies for harvesting and managing the mushrooms, such as using wooden or bamboo sticks for digging; leaving over-mature individuals in the wild for spore distribution or burying next to roots of pine and oak trees; using tree leaves for wrapping to maintain freshness; and protecting pine and oak forest as matsutake habitat. The collection of the now high-value mushrooms has resulted in new demarcation of boundaries between different Tibetan communities and social groups. Again, indigenous knowledge and culture have shown themselves to be adaptable to changing ecological and economic conditions.

New state forest management regimes embodied in the agendas of the Natural Forest Protection Programme and Upland Conversion Programme (for more discussion of these, see CBIK 2002) are having large impacts on these Tibetan communities. The introduction of a ban on logging has taken away a valuable source of employment. Men earned cash income from labour and transportation services in logging operations. Woman sold more mushrooms during the logging season. Moreover, limiting the women’s access to the forests is, to an extent, ignoring the sustainable way in which they were previously managing the matsutake. Matsutake harvesting is an important element of household security. So-called ‘minor’ forest products are not so minor. It is still necessary to convince policy makers of the significance of these enterprises in the framing and implementation of new state policies.

Naxi papermaking

The Naxi people live mostly in the Lijiang Prefecture. Their culture is intimately related to their mountainous environment. Paper made from an endemic plant,
stringbush (*Wikstroemia lichiangensis*) was an integral medium for transmitting history and knowledge. Traditionally stringbush paper was produced by village specialists for the use of the *Dongba* (Box 2), the key person in the Naxi’s knowledge system, and his students. The *Dongba* writes, reads and interprets pictographic scripts and their associated stories.

Today this formerly widespread tradition is preserved only in Baishuitai and Daju communities. It has been severely disrupted by two factors. First, there was the impact of several campaigns against local religions since 1950. Second, modern development has commercialised this formerly non-tourist related paper production. Most Naxi villages lost their *Dongba* through several state policies targeting the belief systems of ethnic minorities. They were forced to hide their scripts, which thankfully have remained almost undamaged because stringbush contains a natural insect repellent.

The Naxi-Dongba Culture Research Institute aims to save and preserve these traditional script interpretation and production practices. For the last 20 years, researchers have been translating the *Dongba* scripts into Han Chinese with a few remaining *Dongba*. The institute is also training 10 young villagers in the skills of writing, reciting, dancing and performing rituals related to the functions of a *Dongba*. Since 1993, the Naxi-Dongba Institute has contracted a papermaker from Daju, Mr He, who provides enough paper for the students to learn and practise writing the *Dongba* scripts. The institute purchases his entire production. In this way the institute is helping to save the traditional culture of papermaking. The institute is very careful in the selection of people to read and interpret the scripts for translation and to guide the students.

Nowadays, Dongba culture has been reduced to its minimal expression through the impact of mainstream development and modernisation. Only two real *Dongba* maintain an active knowledge of the mountains. They are supported by the institute to avoid the complete loss of *Dongba* culture. There are also ‘fake’ *Dongba* who perform in tourist places, selling their dancing and blessings as entertainment. This type of *Dongba* is increasing due to the demand of mass tourism. They do not necessarily know how to read or write the pictograms. Their behaviour is not based on a thorough education embedded in the values of the *Dongba* writings. They are simply acting in a sort of fashion show to meet the cultural expectations of tourists.

The Naxi-Dongba Institute hopes that the young *Dongba* students will develop their skills, return to their mountain villages and continue their cultural function. What the institute cannot influence, since it is a research centre, are two trends: the mass tourism that has transformed a sacred knowledge into a commodity; and the threatened survival of ethnic minority cultures in China.
The essential trait of the Dongba is that he lives according to the principles written in the pictograms. A real Dongba continuously studies aspects of knowledge and ceremonies related to the life cycle: birth, marriage, sickness and death. He follows a very clear monthly schedule and a daily routine. His knowledge has two facets. First, he knows basic ritual procedures. Furthermore, he possesses knowledge of the intricacies of traditional healing, such as how to conduct the corresponding dancing, reciting and preparing of medicine. Wearing different kinds of clothes during the ceremonies and in daily life, the Dongba behaves in a manner distinct from the rest of the villagers. In the past, papermaking was part of a Dongba’s skills. Not all Dongba produced paper, but those who produced it used it primarily for their own writing of pictograms. It is possible that they sold paper to other Dongba, but it is more likely that they exchanged services for paper or that they got the paper for free through long-term relationships.

The survival of the papermaking tradition is also crucial. Apart from Mr He, there are only about another six households with a knowledge of papermaking, but most are not practising their craft. On the contrary, Mr He has plans for the future. He has asked CBIK to support him in his effort to have papermaking knowledge recognised as a collective right of Naxi culture. He does not want to patent the plant Wikstroemia in his name, because it belongs to the local ecology and the Naxi people who have preserved it for many generations. He also does not feel that the knowledge he possesses is an individual achievement. He recognises the sacredness of its origin in that if there are no Dongba to write the holy wisdom on this paper the main purpose of papermaking will be lost. He also sees the importance of the rural continuity of the Naxi cultural legacy. The plant resources, the technology, the complete steps of the process are in the Naxi language. The names of the tools, the prayers that accompany every technical phase and the plant recipes (open and secret) are in the Naxi language. The concepts and skills that must be passed from one generation to the next are transmitted in local Naxi terms.

Mr He looks toward the mountain when he speaks about the future of papermaking. His dream is to install his workshop in a cave near fresh clean water from a natural spring where the peace will allow him to concentrate on paper production. From such a place he would be able to commune more closely with the holy mountains, Saddo and Haba, and continue to make his contribution to the survival of Naxi culture.

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9 From 2002, the Kunming-based Centre for Biodiversity and Indigenous Knowledge is supporting an ecotourism and papermaking project – culturally based natural resources management – with financial aid from The Netherlands.
The future for Yunnan’s peripheral people

A key question being asked in Yunnan is how to make policies more supportive of indigenous knowledge, culture and livelihoods. Policy decentralisation and the growing influence of market economics – both within and across borders – are major issues. Local planning, local action and continuing knowledge innovation are also vital.

Following decades of state discouragement, Yunnan’s diverse indigenous peoples are once again able to follow their particular cultural beliefs, knowledge and practices, and use local institutions for pursuing their livelihoods. They are combining their social and natural capital in fresh ways to respond to the expanding market opportunities (and threats) inherent in processes of globalisation and regionalisation.

Sustainable and equitable development in the peripheral areas calls for holistic and integrated strategies and policies which recognise the links between culture, nature and livelihoods. To get local input, democratic political processes are needed at the local level. All people should be equally centred in state policy formulation, planning and implementation. This is true whether for an initiative such as ‘Develop the West’, emanating from Beijing or ‘Great Cultural Province’, driven by the provincial government. Economic development is not an end in itself and should encourage more sociopolitical participation in the decision making processes by different peripheral peoples.

The indigenous peoples in the peripheral areas are continuing to invent a cultural landscape through knowledge, innovation and by adapting their values and local biophysical conditions to state policies, market opportunities and risks. In the transformations of the present era, indigenous peoples are forces for social change, striving to ensure the wellbeing of their families and community while also conserving the resources of Yunnan for future generations.

Indigenous people, as evident in cases like the Hani people in Mengsong and Tibetan women in northwest Yunnan, have the skills and innovative capacity needed to move beyond their past subsistence economy and enter local and regional markets. However, they need to be assured of secure access to land, natural and cultural resources and the intellectual property rights on which their knowledge, practices and cosmos are based. Resource tenure includes ownership or access to allow management, harvesting and marketing of products from farm and forest. Local farmers and communities, due to their long history of residence and sustainable resource use, should be at the centre of development in their traditional lands, for example in enterprises like eco-tourism in their traditionally protected forest areas.

Capacity must be built in all efforts to promote integrated conservation and development. Capacity building among community members, NGOs and
government staff should ensure that adequate skills are possessed at the appropriate level for bridging indigenous knowledge and scientific technical knowledge. New technologies and strategies require effective training, impact assessment and follow-up support. Government agencies may have to develop these skills first before they can adequately provide technical support for local communities.

Market arrangements that shorten trade links, promote sustainably harvested local products, provide transparent information and improve communication channels should be supported. These can ensure fair prices for products and an equitable stream of benefits to the relevant community members. In addition, the market can enable local control of industries and promote awareness of laws that affect resource use and trade. Strategies should be developed that promote diversification of resource use and public awareness of the values of diverse cultural and natural resources, as well as more crossborder cooperation between neighbouring countries in the region.

Putting the periphery in the centre requires new state policies that respect and appreciate diversity of culture, provide secure rights of access to natural resources and participation in decision making, as well as policies that provide opportunities and institutional arrangements suitable for the post-communist market economy. Changes in culture, nature and livelihood are inevitable. In confronting these rapidly changing biophysical and sociopolitical landscapes, the peripheral people of Yunnan will employ their indigenous knowledge and ethnic identities to secure their access not only to natural resources, but also to markets and sociopolitical power. We, policy makers and development practitioners, can make a difference for better or worse. It is our choice.

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