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# BIODIVERSITY CONSERVATION: STUDIES IN ITS ECONOMICS AND MANAGEMENT, MAINLY IN YUNNAN, CHINA

**Working Paper No. 15**

**Tourism Development and Conservation of Nature and Cultures in Xishuangbanna, Yunnan**

**By**

**Clem Tisdell**

**And**

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**May 1995**

**THE UNIVERSITY OF QUEENSLAND**

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**Clem Tisdell**[1]

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Research for ACIAR project 40, *Economic impact and rural adjustments to nature conservation (biodiversity) programmes: A case study of Xishuangbanna Dai Autonomous Prefecture, Yunnan, China* is sponsored by the Australian Centre for International Agricultural Research (ACIAR), GPO Box 1571, Canberra, *ACT,* 2601, Australia. The following is a brief outline of the Project

Rural nature reserves can have negative as well as positive spillovers to the local region and policies need to be implemented to maximise the net economic benefits obtained locally. Thus an 'open' approach to the management and development of nature conservation (biodiversity) programmes is needed. The purpose of this study is to concentrate on these economic interconnections for Xishuangbanna National Nature Reserve and their implications for its management, and for rural economic development in the Xishuangbanna Dai Prefecture but with some comparative analysis for other parts of Yunnan

The Project will involve the following:

1. A relevant review relating to China and developing countries generally.
2. Cost-benefit evaluation of protection of the Reserve and/or assessment by other social evaluation techniques.
3. An examination of the growth and characteristics of tourism in and nearby the Reserve and economic opportunities generated by this will be examined.
4. The economics of pest control involving the Reserve will be considered. This involves the problem of pests straying from and into the Reserve, e.g., elephants.
5. The possibilities for limited commercial or subsistence use of the Reserve will be researched.
6. Financing the management of the Reserve will be examined. This will involve considering current sources of finance and patterns of outlays, by management of the Reserve, economic methods for increasing income from the Reserve and financial problems and issues such as degree of dependence on central funding.
7. Pressure to use the resources of the Reserve comes from nearby populations, and from villagers settled in the Reserve. Ways of coping with this problem will be considered.
8. The political economy of decision-making affecting the Reserve will be outlined.

**Commissioned Organization**: University of Queensland

**Collaborator**: Southwest Forestry College, Kunming, Yunnan, China

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# Tourism Development and Conservation of Nature and Cultures in Xishuangbanna, Yunnan


## ABSTRACT

Tourism is growing rapidly in Xishuangbanna Dai Autonomous Prefecture located in southern Yunnan. Tourism is now regarded as a leading industry in the development of this Prefecture. This paper outlines the nature and pattern of development of tourism in Xishuangbanna Prefecture. Features of this tourism such as average length of stay of tourists in the Prefecture, the level of their expenditure, its composition, type of tours available and taken are highlighted. Tasks being undertaken to improve facilities for tourism and its management are discussed. Obstacles to the development of tourism in this prefecture are also noted.

Tourism in Mengla County, the last country in the Prefecture to be opened to tourism, is discussed as a particular case and. special attention is given to the role which Xishuangbanna State Nature Reserve is playing in the development of ecotourism, including the involvement of local communities in this development. A master plan has been drawn up for tourism development in Xishuangbanna State Nature Reserve and this ambitious plan is outlined and examined. Ecotourism development in this prefecture needs to have a sound financial basis as well as to support the conservation of its rich biodiversity. Involvement of local communities, such as is occurring near Mengla, can assist in this regard.

# Tourism Development and Conservation of Nature and Cultures in Xishuangbanna, Yunnan

## 1. Introduction

With the opening up of China to the outside world commencing in 1978, tourism became an expanding industry. Furthermore, with economic reforms in China this service industry, as with other service industries, became to be looked upon more favourably as a legitimate form of economic activity. However, the development of the tourism industry in China has been uneven with the most growth occurring in the major cities. Xishuangbanna Prefecture in southern Yunnan for example, did not start to be targeted for tourism development until 1985 and its southernmost county, Mengla county was not opened to foreign tourists until 1993. Let us consider the nature and development of tourism in Xishuangbanna State Nature Reserve and tourism plans for this Reserve.

## 2. The Nature and Development of Tourism in Xishuangbanna Prefecture

According to the Director of the Tourism Development Bureau of Xishuangbanna the tourism industry caters for six activities: (1) eating and dining (2) accommodation (3) travelling (4) purchases of souvenirs and commodities (5) entertainment and (6) local sightseeing. It is consequently an industry with wide economic implications especially when one considers the indirect economic imports of such activities.

According to the Director of Tourism Development Bureau of Xishuangbanna the number of domestic tourists to Xishuangbanna in 1993 was estimated to be 1 million and foreign tourists to be 15,3000 (including persons from Hong Kong and Taiwan who constituted the bulk of such visitors). In terms of tourist numbers, Xishuangbanna is the fourth prefecture in Yunnan but in terms of income generated it is second after Kunming (Pers. comm. Director of Tourism Development Bureau of Xishuangbanna, Oct. 1994). Numbers of tourists are rising at about 20 per cent per year.

It has been accepted by the Ministry of Economic Development as a pioneer industry or import industry for· the economic development of Xishuangbanna and it is anticipated that it will develop into a major industry for Xishuangbanna. The Ministry of Economic Development is providing special incentives to promote tourist and border industries supportive of tourism. Development zones have for example been established in a number of towns and tourism-related industries encouraged to locate in these.

It is estimated that there were in 1994 about 100 tourism-related enterprises in the Prefecture. Furthermore, in 1993 tourism accounted for an estimated 20 per cent of the value of the gross product of Xishuangbanna so it is already a significant industry in the Prefecture.

The Director of the Xishuangbanna Tourism Development Bureau (pers. comm. October, 1994) has outlined a number of tasks to be done and difficulties to be overcome to develop tourism. These are:

(1) To improve the 'software' of the local tourism industry, mainly to quality of services and mechanisms for the management of tourist businesses and the industry.

(2) A major constraint on the growth of tourism in the Prefecture are transport bottlenecks and difficulties. Although Jinghong, the capital of Xishuangbanna, is only 20-30 minutes from Kunming by air, the only airline permitted to fly there is Yunnan Airlines. Demand for seats exceeds available places. The alternative is a rather arduous bus journey of about 2½ days from Kunming to Jinghong. To rectify this situation, authorities in Xishuangbanna Prefecture are pressing for:

    a. permission for airlines from any· part of China to fly directly to Jinghong and,

    b. for Jinghong Airport to be upgraded to an international one able to receive direct flights from other countries. Flights from Thailand, Singapore and Vietiane (Laos) are seen as possibilities.

(3) A survey of the tourism resources of Xishuangbanna is to be completed. This is being done on a county basis. ·The survey has been completed for Mengla county, is now in progress (October, 1994) for Jinghong county and will be completed in 1995 for Menghai county, thus completing the survey for all of the three counties in the Prefecture. Surveys so far have helped to identify tourism assets which were

previously not known.

After these surveys are completed (after August 30, 1995) the Xishuangbanna Tourism Development Bureau will prepare an overall plan for tourism development in the Prefecture and will formulate some regulations controlling the management and use of tourism resources.

(4) The Tourism Bureau will focus on the training of tourist guides and managers. It will require guides to be registered and to wear an identification card.

(5) The Bureau plans to accelerate scenic site development and development of the manufacturing of tourist products while at the· same time instituting quality control and measures to ensure conservation of tourism assets. The following is intended:

a. *Scenic sites*. Once the cataloguing of the scenic sites is completed for the Prefecture, a limited number will be selected for development. These are likely to be those which it is easiest to reach and account will be taken of the environmental impact in selecting sites and in managing these. Expression of minority culture is to be encouraged and steps will be taken to preserve minority-built environments.

b. The Tourism Bureau will control investment in tourism by the state, collectives, individuals, the Nature Reserve Bureau and the Forestry Department under regulations which give the Tourism Bureau this power. Each authority involved in tourism or having a substantial investment in it will be required to draw up a tourism development plan for approval by the Xishuangbanna Tourism Bureau. Investment in tourism development will require the approval of the Bureau and must accord with the Prefectural Tourism Development Plan.

c. The Bureau will address the question of competition between development and conservation. It intends to support conservation actively not passively. In cases where a tourist site is to be opened for tourism, it will need to be sure that it can be protected. If insufficient resources are available to protect any sites, the preference of the Tourism Bureau is to have the sites closed to tourism therefore preserving them for future generations.

The average tourist to Xishuangbanna spends 3 nights there. This is also the average length of stay in Jinghong. Most tourists make Jinghong their base only venturing out for day tours. These are often very long and may involve journeys to Laos and Myanmar (Burma). The length of stay of Chinese tourists in Xishuangbanna is quite short because the period which Chinese have for annual holidays is very short. Given the range of attractions available in Xishuangbanna, a stay of 5-7 days would appear to be more appropriate for a tourist to see the main attractions. The Director of the Xishuangbanna Tourism Development Bureau estimates the tourists to Xishuangbanna spend .on average ¥1000 during their visit (Pers. Comm. October, 1994). His suggested breakdown of this expenditure for a 3 night (4-day) stay is:

| | **%** | **¥** | **¥ per day (approx.)** |
|---|---|---|---|
| **Food and drink** | 12 | 120 | 30-40 |
| **Accommodation** | 15 | 150 | 50 |
| **Local transport** | 20 | 200 | 40 |
| **Airfare** | 35 | 350 | - |
| **Other** | 18 | 180 | 45 |

He estimates that approximately 40 per cent of the goods purchased by tourists in Xishuangbanna Prefecture are purchased from outside the Prefecture. However, leakages are bound to be much higher in some cases than indicated for this figure, for example in relation to the air fare.

Six standard tours are available using the Prefecture as a base. These are:

(1) Jinghong to Daluo at the border with Myanmar (Burma) crossing to Xiao Mengla on the Burmese side.

(2) Jinghong via Gannanba (Menglun and Mengla) to the Menghar crossing to Laos.

(3) Down the Lancang (Mekong) River by ferry to the Golden Triangle in Thailand.

(4) Tours within Jinghong County.

(5) Tour from Jinghong to Mengyang village to San-Ca-He scenic site in Mengyang Sub-reserve.

The Director of the Xishuangbanna Tourist Development Bureau said that 90 per cent of tourists to Xishuangbanna participate in a cross border tour with most travelling to Burma. Most Chinese visitors do not participate in ecotourism even though the Chinese government is interested in developing ecotourism. He suggested as reasons that:

(a) Chinese adopt a passive rather than an active approach to recreation as a part of tourism.

(b) Most Chinese have a very short time for their holidays.

(c) They generally regard the forest as a dangerous and hostile environment.

Despite this, the Director agreed that the Nature Reserve Bureau and the Ministry of Forestry have an important role to play in promoting tourism in Xishuangbanna. It is regarded as the 'green gem' of China and its nature reserves and forests may be attractive to foreign visitors. It seems in any case that a 'halo effect' from the presence of the Reserve and forests may help generally in attracting tourists to Xishuangbanna but no in depth study has been done on this subject as yet.

## 3. Tourism in Mengla County

Mengla is the southen1most county of Xishuangbanna Prefecture and has borders with Laos and Myanmar. Its principal international border is with Laos. It was only opened for foreign tourism n 1993 and its experience with tourism development has been rather recent. Being a county on an international border and given .China's extension of its open-door policy, it has adopted policies to expand its cross-border trade with neighbours especially Laos. Economic export zones have been developed in its main towns, Mengla and Menglun.

It is the first county in Xishuangbanna Prefecture to complete a survey of its tourism assets. As mentioned earlier, all counties in Xishuangbanna are to complete such surveys in preparation for the compilation of a tourism development plan for the whole Prefecture. In addition, the Tourism Development Bureau of Mengla County will prepare a tourism plan for the county in conjunction with the administration of the county. The final plan will need to be consistent with the Prefectural tourism plan.

The survey of the tourist resources of Mengla County was conducted by the Geographic Institute of the Chinese Academy of Sciences, and 15 specialists were engaged in this task. The survey concentrated on the physical tourism resources (man-made and natural) and according to the Director of Mengla Tourism Development Bureau (pers. comm. October, 1994) identified 30 first class scenic sites in Mengla County and 36 categories out of 68 possible designated categories of tourism resources as present in the County. Of these 16 were regarded as particularly noteworthy. These are:

1. Mountains
2. Exposed rock cliffs
3. Unique shapes (such as animal-like shapes) of natural features
4. Caves
5. Scenic views along rivers
6. Reservoirs
7. Waterfalls
8. Springs (hot and cold)
9. The greenery created by forests
10. Ancient and large trees
11. Animal habitats
12. Religious sites
13. Buddha statues
14. Bridges
15. Villages and townships
16. The botanic gardens at Menglun

It might be observed that basically the survey is a top-down one with the importance of sites and assets being determined by the survey panel. No survey of tourists to the county to find out their attitudes to its tourist attractions appears to have been undertaken. The Bureau suggested that Mengla County is very favourably placed for tourism development because of the above tourism assets, the extent of its forest cover, its location on the border with Laos

and its access to the Mekong River which can provide transport for tourists. In·addition, the County has three border markets, interesting minority cultures, food and festivals.

In order to develop tourism in the country any legal form of business venture will be permitted, e.g., independent businesses, co-operatives, joint ventures, etc. Selected tourist routes will be promoted (some involving journeys to Laos and Thailand) as well as attractions such as the· botanic gardens at Menglun and the Forest/Limestone Cliffs site. The Deputy Director of the Mengla Tourism Bureau suggested that much more investment is needed in tourism development and in training of tourist personnel. Tourist staff are, at present, poorly trained because of the recent development of tourism in the county.

One of the main aims of the County is to link its economy to that of Southeast Asian countries and they encourage cross border trade.

According to the Deputy Director of Mengla Tourism Development Bureau, 200,000 tourists visited the County in .1992. This would amount to about 20 per cent of tourists visiting the Prefecture. Of these 200,000 tourists, 150,000 terminate their journey in the County at Menglun Botanic Reserve so only 50,000 come as far as Mengla town. Of these, 20,000 travel across the international border mainly to Laos.

The Deputy Administrator of Mengla County in an interview in October 1994 felt that the main constraints on tourism development and economic development generally in her Country were (1) transportation difficulties (2) limited energy supply and (3) deficiencies in telecommunications.

As for roads, these all need to be improved. Many become impassable during the wet season. However, the road between Kunming and Menghan on the Laotian border is being improved. Efforts are being made to establish an airport at Mengla, if possible with direct communications to Southeast Asian countries. Telecommunications are inadequate and a larger PABX system needs to be installed. A large supply line is going in to help overcome electricity supply problems.

The county is determined to encourage tourists to come from Southeast Asian countries such as Thailand, Malaysia and Singapore and will develop industries to service tourism. Factories will be set up in development areas to produce products for tourist such as products made from bamboo and the roots of trees. Clothing incorporating the fashions of minority people

will be manufactured along with local artefacts. It is hoped that the border-crossing customs posts can be upgraded to receive foreign visitors directly from Laos.

The Deputy Administrator of the county stressed the need for a 'reasonable' balance between conservation and development. Measures are being taken to protect local cultures. For example, the Dai people are being encouraged to maintain their building styles. However, in some townships which have recently experienced considerable growth concrete modern buildings are starting to intrude on traditional Dai buildings. Strict zoning seems to be necessary to preserve the traditional character of some localities.

The administrators of the county also suggested that increased tourism training and improvements in management of hotels are needed. Tourist guides in particular need more training. If more foreign tourists are to be catered for, greater knowledge of foreign languages and customs would be needed.

## 4. Xishuangbanna State Nature Reserve and Ecotourism

Xishuangbanna State Nature Reserve consists of five sub-reserves, namely Mengyang, Menglun, Mengla, Shangyong and Mangoa (Menghai). This nature reserve is the major conservation system in Xishuangballl1a Dai Autonomous Prefecture and plays an important role in the conservation of tropical forest ecosystems and is essential to the conservation of the only remaining Asian elephant population in China. As one of its strategies for obtaining some economic return from biodiversity consideration, the Bureau for the Protection of Xishuangbanna State Nature Reserve is encouraging the use of the Reserve for tourism and is developing ecotourism.

The Reserve helps to give Xishuangbanna its reputation as the 'green gem' of China. Several main roads pass through or by its sub-reserves and from these roads excellent views of the natural scenery of the Reserve can be had. As for scenic sites within the Reserve, three main sites are open to the general public. These are (1) San-Ca-He in Mengyang Sub-reserve (2) the limestone forest and cliffs at Menglun Sub-reserve and (3) Bubong scenic site in Mengla Sub-reserve. Entrance fees are charged to visitors at each of these sites.

San-Ca-He is the closest ecotourist site to Jinghong for visitors and the road from Kunming to

Jinghong passes by it. It is located about 18 kilometres from Mengyang town, the nearest small township. Passing travellers from Kunming sometimes visit the site and tours are available from Jinghong.

In 1993, Menyang Sub-reserve earned about ¥10,000 from fee-paying visitors to this site and appears to have had less than 10,000 fee-paying visitors in 1993. It was reported by the Director .of Ecotourism Development for Mengyang Sub-reserve (per. comm. October, 1994) that most local tour operators do not include this sub-reserve in their itinerary because they say that it does not ·have enough to offer. Nevertheless, small tourist groups do come and most seem to be well satisfied by sitting on the back of an· elephant and having their photo taken. San-Ca-He is the principal tourist site in this sub-reserve and a domesticated elephant (originally from Burma) is kept at this site.

While walks along constructed paths into the rainforest are available, none of these walks are exceptionally long. Wild animals are very rarely seen as appears to be usual in rainforests, although the calls of many birds can be heard. Although wild elephants are present in this area they are not often seen by visitors although the signs of their presence is visible such as their droppings, their impact on vegetation and during the wet season their footprints. Near a pond sometimes used by elephants for bathing and drinking a set of viewing platforms has been erected and it is possible to stay there overnight in a small treetop 'hotel'.

The fees charged to Chinese domestic visitors to San-Ca-He in Mengyang sub-reserve are:

¥3 for a visit to the site

¥10 for a photograph to be taken on the back of the elephant

¥60 for a ride on the elephant into .the forest

¥10 for a guide

¥20 to stay overnight in the canopy 'hotel'

The number of visitors to San-Ca-He varies seasonally. July, August and September are relatively unsuitable for visits because of heavy rain, floods and transportation problems. Furthermore, most visitors find walking in a wet rainforest relatively unpleasant.

The site at San-Ca-He is being developed with a view to increasing the number of visitors. A strong concrete access road to future amenities is being built and walking paths into the forest

have been constructed making use of concrete bricks. These paths have been constructed so as to minimize damage to vegetation. However, no funds have been made available for the maintenance of such facilities and this is considered to be· a problem by the management of the sub-reserve because their internal funds for maintenance are very low. The path has already been damaged slightly by elephants and some trees have fallen across it.

By providing infrastructure at the San-Ca-He site, the management of this sub-reserve hopes to attract joint ventures or independent businesses to supply other tourist facilities. As yet, however, such a possibility has not materialized. The sub-reserve is constructing a small hotel/guest house at the site which will contain 20 beds. It is believed that this may mainly be used by foreigners. The building of this hotel has been financed by a soft loan from the Provincial Tourism Development Company. It seems that the overall loan from this company is about RmB.5 million. Income from the hotel will not be sufficient to repay the loan even if the hotel achieves a high occupancy rate. Repayment of this loan will depend upon other tourism ventures materialising such as joint ventures at the site.

One of the problems of concern to the management of the sub-reserve is the very low chance of visitors seeing wild animals. The possibility has been considered of keeping a small zoo at the San-Ca-He site to display some of the wild animals present in Mengyang Sub-reserve. However, this will add to costs and for some it will conflict with the ideal of conservation under natural conditions. A small attraction already in existence at the San-Ca-He site is the butterfly farm. With adequate guidance and interpretation, its significance as a tourism attraction could be upgraded.

The management of the Sub-reserve stated that apart from the difficulties mentioned above, that they faced other problems in attracting more visitors. These included (1) transport difficulties. At least a two-day road journey from Kunming is needed to reach the site. 0 While there are plane flights from Kunming to Jinghong, a shortage of seats limits visitors by air. The route is currently a monopoly of Yunnan Airlines. (2) Tourists departing from Kunming have a choice of destinations in Yunnan, many of which also have significant cultural and natural assets. For example, the area around Dali west of Kunming has such attractions and can be reached relatively quickly by road from Kunming.

The site of the so called forest curtain and limestone cliffs in the Menglun sub-reserve provides a contrasting ecotourism development to that at San-Ca-He. Whereas that at San-Ca-

He is relatively capital using and 'top-down' in conception, that at the Limestone/Forest Cliffs seems to be less capital-intensive (as it had developed at October 1994) and 'top-down' because it involves a joint· venture between a local farming co-operative and the management of the Nature Reserve.

## 5. The Master Plan for Tourism Development in Xishuangbanna State Nature Reserve

In June 1993, a 'Master Plan for Tourism Development in Xishuangbanna State Nature Reserve' was completed by the Yunnan Forestry Investigation and Planning Institute as a part of the planning process for the development of tourism in Xishuangbanna Prefecture. This background document outlines plans for tourism development in the Reserve for the next decade or so. The document lists 11 sites for tourism development for the State Nature Reserve and these are set out in Table 1 with their characteristics indicated. However, as at October 1994, only three of these sites had been opened for tourism within the Reserve, namely, San- Ca-He, Menglun Forest/Limestone Cliffs and Bubong all of which have been discussed above. In addition, a museum and display concerning conservation exists at the Jinghong headquarters of the Bureau for the Protection of Xishuangbanna State Nature Reserve. This museum is primarily used for education purposes and is mostly utilized by schools for this purpose.

**Table 1: Planned Scenic Sites for Tourism Development in Xishuangbanna State Nature Reserve as at mid-1993. Planned size of capital investment by sites, planned length of walking tracks, main attractions.**

| Name of scenic site | Planned size of investment | | Length of planned walking tracks in Km | Main attractions or activities |
|---|---|---|---|---|
| | ¥m | % of total at scenic site | | |
| 1. San-Ca-He | 11.56 | 22.35 | 8.5 | Tropical forests, wildlife, butterfly farm |
| 2. Menglun | 12.95 | 22.04 | 9.6 | Forests, limestone cliffs |
| 3. Bubong | 3.24 | 6.26 | 0.5 | Forest, treetop walk |
| 4. Huang-Shan-Tang Natural Zoo | 5.4 | 10.44 | 8.5 | Elephants, peacocks, deer |
| 5. Lancang River | 2.39 | 4.62 | 33.0 | River scenery, cruising |
| 6. Meng Yuang Peak and Cave area | -[(a)] | - | TBA | Cave |
| 7. Nan-San Reservoir | 4.7 | 9.09 | TBA | Water-based recreation |
| 8. Nan-Gong Mt. | 3.08 | 5.95 | 58.0 | Climbing, Scientific research |
| 9. Mengyang River | 2.31 | 4.47 | 37.0 | Adventure sports, research |
| 10. Xi-Cao-Tang Hunting area | 5.09 | 9.84 | - | Hunting |
| 11. Jinghong Forest Museum | 1.00 | 1.93 | - | Education, marketing |
| TOTAL | 51.72 | 100.00[(b)] | 155.1+ | |

*Source*: Based on Yunnan Forestry Investigation and Planning Institute (1993), Ch. 4.

*Notes*: (a) No details available

(b) May not exactly. add due to rounding

As can be seen from Table 1, the largest amount of construction for tourism development is planned at the Menglun Forest/Limestone site and at San-Ca-He in Mengyan Sub-reserve. A visit to these sites in October 1994 indicated that the amount of capital construction completed or underway at San-Ca-He was much greater than at the Menglun Forest/Limestone Cliffs site.

Although the list n Table 1 is described as planned tourism developments it would be more realistic to describe them as possible tourism developments. Most do not involve **firm** plans.

The overall plans' for tourism development by the Bureau for Xishuangbanna State Nature Reserve are quite ambitious. Hotels are 'planned' for construction at San-Ca-He, Bubong and

Mengla Forest Limestone Cliffs. The hotel at San-Ca-He is already· well under construction. Together all these hotels are expected to have 1274 beds. In addition it is suggested that Reserve should have a transport company located in Jinghong equipped with 4 large bus coaches (40 to 60 seats), 8 of modem size (10 to 20 seats) and four motor vehicles with 3 to 4 seats. Two cruising vessels with 30-35 seats each· are recommended and ten small speedy craft. A travel agency is also envisaged with 30 employees. In general, a large increase in staff numbers associated with the Reserve is envisaged on account of expansion of its ecotourism activities.

When all tourism related capital investment is taken into account, the 'planned' investment by the Reserve amounts to ¥77.05 (about US$11m) a part of which is accounted for in Table 1. The proposed breakdown of this total investment by categories is . set nut in Table 2. Hotels and related housing is the main category (47.44%) followed by road construction and transport equipment (24.7%), scenic area construction (9.1%), auxiliary construction (9.1%) 'necessary' construction (7.7%) and forestation (1.2%). Infrastructure expenditure is clearly a high component.

**Table 2. Proposed or 'Planned' Capital Expenditure on Ecotourism Expansion by the Bureau of Xishuangbanna State Nature Reserve**

| | | % |
|---|---|---|
| Road construction and transportation | 18,991,000 | 24.7 |
| Scenic site construction | 7,659,800 | 9.9 |
| Auxiliary construction | 7,018,700 | 9.1 |
| Other necessary construction | 5,905,900 | 7.7 |
| Forestation | 911,700 | 1.2 |

*Source*: Based on Yunnan Forestry Investigation and Planning Institute (1993, Ch. 11).

*Note*: (a) Does not add exactly due to rounding

No detailed analysis of the economic returns from the above investment is provided but in the Master Plan for Tourism Development in Xishuangbanna State Nature Reserve, extremely optimistic figures for predicted growth in a number of visitors to the Reserve are given. As a result of discussion with leaders of the sub-reserves of Xishuangbanna State Nature Reserve in October 1994, it seems that the number of visitors to sites in the Reserve in 1993 was between 30,000 to 50,000. This Master Plan (Yunnan Forestry Investigation and Planning Institute, 1993, Ch. 5) forecasts that there will be 10,000 foreign tourist arrivals in Xishuangbanna Reserve and 300,000 domestic arrivals in 1995, rising to 30,000 and 600,000 respectively in 2000, with their former doubling and the latter increasing by one-third by 2005. Unfortunately, there appears to be little basis for such optimistic predictions. It seems possible that enthusiasm has resulted in exaggeration of the prospects for tourist growth in the Reserve and likely receipts from tourists. Certainly more analysis would be necessary to determine whether financial and social economic returns from the proposed investments for the expansion of tourism are likely to be positive. A more realistic approach might throw some doubts on this. There is a danger of infrastructure being expanded beyond a level that can be supported by demand.

## 6. Concluding Comments

Tourism is growing rapidly in Xishuangbanna Prefecture and tourism has been designated as a leading industry for the purpose of stimulating economic development of the Prefecture. Consequently the industry is receiving economic priority and some concessions e.g., favourable terms for loans. Restrictions on travel and tourism are being reduced and plans are being prepared to make it possible for foreign tourists to enter China directly though Xishuangbanna. ·A number of improvements in transport systems and supply of tourism services are also being proposed to assist the growth of tourism in this Prefecture. The situation has been discussed for the Prefecture as a whole and with particular reference to Mengla County.

Xishuangbanna is an area with high species biodiversity, contains one of the few remaining areas of tropical forests in China, and is the only part of China that still contains Asian elephants. The 'greenery' of Xishuangbanna State Nature Reserve plays an important role in helping to protect this. However, at the present time, it seems that only a small fraction of

Chinese tourists visiting actually visit sites in the Reserve even though ·many more may enjoy it from main roads which pass through parts of the Reserves. As discussed, the Bureau for the Protection of Xishuangbanna State Nature Reserve has plans to expand ecotourism in the Reserve and has already embarked on an expansion programme. While economic opportunities exist for such expansion, caution is required in undertaking this investment if a financial or economic loss is to be avoided. Joint ventures with the local community, such as the development at Menglun Forest/Limestone Cliffs, will probably increase the likelihood of a positive financial return being earned on investment in tourism facilities in the Reserve. There is a need for further analysis of the economic opportunities for expansion of ecotourism in the Reserve.

## 7. Acknowledgments

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## 8. Reference

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