

# **SOCIO-ECONOMIC ISSUES IN THE CENTRAL TRUONG SON LANDSCAPE**

*Compiled by*  
Nguyen Lam Thanh

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Copies available from:  
**WWF Indochina**

<i>Street address</i>	<i>Mailing address</i>
53 Tran Phu Street	IPO Box 151
Hanoi, Vietnam	Hanoi, Vietnam
Tel: +84 (0) 4 733 8387	
E-mail: Hanoi@wwfvn.org.vn	

**Forest Protection Department**  
Ministry of Agriculture and Rural Development  
2 Ngoc Ha Street  
Hanoi, Vietnam

## BACKGROUND TO THE CENTRAL TRUONG SON REPORTS

In response to concerns about the increasing pace of biodiversity loss and the need to increase the scale and integration of global conservation efforts - WWF together with its conservation partners have developed a new approach to conservation – ecoregion conservation. Scientists have undertaken a major analysis of the world's biodiversity and identified more than 800 ecoregions that reclassify the way we view the natural world. From this global inventory, 238 ecoregions have been identified that comprise the most valuable and representative global biodiversity. These priority ecoregions have been labeled as the Global 200.

In 1998, the Forests of the Lower Mekong Ecoregion Complex (FLMEC) was selected as one of the first locations to initiate an ecoregion based conservation programme. With initial support from WWF-US and USAID, the programme has now been established as one world's first fully functioning Ecoregion Action Programmes (EAP).

In March 2000, over eighty scientists from Cambodia, Lao P.D.R., Vietnam, and many other countries participated in an ambitious and groundbreaking assessment of biological conservation priorities within the Forests of the Lower Mekong Ecoregion Complex. The results of this biological assessment have since been published in the report entitled "Towards a Vision for Biodiversity Conservation in the Forests of the Lower Mekong Ecoregion Complex".

After the biological assessment and a 'situation analysis' to examine the threats and opportunities, WWF decided to focus on two of the Global 200 ecoregions falling within the Forests of the Lower Mekong Ecoregion Complex – the Greater Truong Son and the Central Indochina Dry Forests.

The Greater Truong Son comprises the most unique and diverse biodiversity within the FLMEC. The discovery of the saola (*Pseudoryx nghetinhensis*) by WWF and Vietnamese scientists in 1992 in Vu Quang Nature Reserve drew the world's attention to the biodiversity associated with this mountain chain. Since that first remarkable discovery, many other new species have been found, including a number of large mammals such as the large-antlered (giant) muntjac (*Muntiacus vuquangensis*) and the Annamite striped rabbit (*Nesolagus timminsi*). These discoveries highlight the Greater Truong Son as one of the world's most remarkable and unique ecoregions. In addition to these species totally reliant on successful conservation in the ecoregion, a number of wider-ranging, highly threatened species such as the Asian elephant (*Elephas maximus*), tiger (*Panthera tigris*) and the world's most endangered large mammal, the lesser one-horned (Javan) rhinoceros (*Rhinoceros sondaicus*) are found in the ecoregion.

The Central Truong Son Initiative\* is a pilot initiative being developed by WWF's Greater Truong Son EAP, with a view towards establishing the process of working at three scales - ecoregional/national policy, landscape and site. The aim of this fledgling initiative is to create a partnership of a broad range of stakeholders - from local communities to international organisations - working together to secure biodiversity conservation and sustainable development in the Central Truong Son Landscape (CTSL).

Following the methodology of the ecoregional approach, the Central Truong Son Initiative is based on coordinated conservation action, designed under a large-scale framework and guided by a long-term vision of success. The approach is based on the recognition that uncoordinated actions at individual sites are neither efficient nor effective at conserving functioning ecological systems or halting the loss of natural resources. In order to be more effective, a more ambitious coordinated effort is required that is developed and designed under an overarching strategy. The need for such a coordinated effort resulted in the establishment of an advisory group comprising 16 government institutions. This unprecedented collaboration will work as a vital support body to the Central Truong Son Initiative in its planning process towards a conservation strategy for the CTSL.

In order to develop such a comprehensive, overarching strategy, there is a great deal of information that needs to be assimilated. Through a process of lengthy and detailed consultations, the necessary information has been identified and collected. This series of reports presents that information in a format that is both suitable for informing those involved with the strategy development process, and conducive to those merely interested in the status and issues of the CTSL.

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\* Truong Son is also known as the "Say Phou Louang" in Lao P.D.R., and as the "Truong Son" internationally. The Central Truong Son is one landscape in the ecoregion.



## **EXECUTIVE SUMMARY**

The report highlights clear differences between provinces within the priority landscape, and to a lesser extent within individual provinces.

**Part I** of the study provides an overview of the socio-economic issues of the Central Truong Son Landscape's provinces. The geographical locations, administrative systems, socio-economic issues and the development trends in some key provinces in the region are reviewed. Specifically, the Central Truong Son Landscape (CTSL) encompasses six provinces and two supplementary provinces, covering 17% of the nation's territory: Quang Tri, Thua Thien Hue, Quang Nam, Da Nang, Gia Lai, Kon Tum, Binh Dinh and Quang Ngai.

Ten percent of the nation's population reside here, including 33 ethnic groups (9% of regional population) and nine indigenous groups. Of these, over ninety percent live in Kon Tum and Gia Lai provinces, and many live in rural mountainous areas.

Generally, there have been improvements in many sectors in the CTSL - namely health, education and transport- as a result of increased government spending, subsidies and targeted development programmes. There has been a dramatic increase in university students, technical workers and vocational training workers. The region has a higher population growth rate than the national average, and over half of the population is of working age.

However, the improvements and benefits are unevenly distributed over the landscape, across different sectors and during the year. Urban areas and commune centres are typically targeted for infrastructure development and investment, as are the coastal regions. During the 1996-2000 period, Da Nang (10.33%) and Gia Lai (12.65%) provinces experienced the highest economic growth; and in 1999, Da Nang and Binh Dinh provinces had the highest Gross Domestic Products (GDP) in the region. Whilst the agro-forestry sector declines in the region, the industry-construction sector is experiencing the highest growth rate of all sectors in all provinces except one. Eighty percent of the population derive their income from the agro-forestry sector, which collectively accounts for over 60% of the land area.

Conversely, many of those living in remote, mountainous areas - predominantly ethnic minorities - remain isolated and live in substandard conditions due to a combination of factors related to the difficult terrain in which they live and to the focus of development in urban and commune centres:

- inaccessible and/or untarred roads (particularly in Quang Nam province);
- lack of access to clean and centralized water supplies;
- lack of access to major electricity suppliers;
- low communications capacity (2.2 of 100 people have telephones) and minimal interpersonal contact.

As such, access to adequate health care, health and education facilities, and maintenance of language skills (i.e. Vietnamese) are issues of concern, among others. The risk of contracting diseases such as dysentery and tuberculosis are high in many regions, and malaria regularly plagues people living in mountainous areas.

As a whole, the region remains the poorest in Vietnam, with nearly all provinces on the national poverty list. Notably, Quang Tri, Quang Ngai and Kon Tum have the highest poverty rate, which peaks at nearly 30%. This doubles in the mountainous regions; in Kon Tum, the vast majority of peoples living in poverty and starvation are ethnic minorities. Those experiencing positive change over time live close to roads or in town peripheries, and are involved in non-agricultural sectors, such as local government staff, civil servants and teachers.

The per capita income in the Central Truong Son Landscape is 214 USD per year, which is 70% of the national average. Although three hundred kilograms of rice are available per person, there can be shortages throughout the year of 3-4 months in some areas.

Environmental concerns have arisen due to the construction of the Ho Chi Minh highway, which crosses several provinces in the Truong Son Landscape, and the development of unused land of poor quality. Environment-friendly technology however, namely small scale hydropower generators, may provide solutions for people living in remote areas.

Three kinds of migration occur in the CTSL: in-region migration between localized areas; planned and free migration among regional provinces; and the external migration of groups from provinces north of the CTSL. Generally, the main drive behind migration comes from experiencing economic hardships. One consequence is a significant increase in the number of people living in mountainous areas, particularly in areas with fertile basalt-based soil and in primary forests.

Four fundamental objectives drive the short and long-term orientation of socio-economic development in the provinces.

1. To attach great importance to the implementation of industrialization/modernization in agricultural development and rural upgradation. Changing the agricultural and rural economy into large-scale production is both an immediate and long-term lasting need.
2. To promote the economic transference mechanism, linking agricultural development with the processing industry and professional work generation. Also cementing production with an available market in order to establish the combination between agriculture, industry, service and marketing.
3. To enhance the advantages of all areas, rapidly applying scientific/technological achievements to the development of agricultural commodities, thus meeting increasing demands for agricultural products and industrial materials.
4. To develop the agricultural sector in line with other economic sectors. The State's economy will play a leading role in combination with the cooperative economy, to gradually build the foundations.

**Part II** focuses on providing information to form the basis of analyzing some economic, cultural, and social features of the ethnic minorities and of mountainous areas, in relation to the location and objectives of conservation actions.

**Part III** touches upon the groups and organizations involved in the region's conservation.

**Part IV** presents consequences and related recommendations:

- The slash and burn cultivation system carried out by the ethnic minority people is not the key reason leading to environmental degradation presently, greater impacts come from other causes.
- The Truong Son region and Central Highlands cover a considerable area that could be exploited in the future for the purposes of existence, especially in arranging/reconciling residents among areas.

- The development of the Central Truong Son Landscape should be motivated on the basis of concrete studies, detailed projection, and contents corresponding to human and ecological features in each area and in every ethnic group, thus avoiding unplanned and unbalanced development. This is necessary for both the settled and protected areas.
- Through the tendency of expanding the area for agricultural cultivation, ecological conservation and watershed protection, the resources available for the ethnic groups will be gradually narrowed. Conservation will only be truly successful after economic stability has been created for the influenced groups.
- The promotion of the role of local communities in natural resource management and enhancement of participation via the establishment of land-use rights regulations, both in written and traditional forms, are important measures. Community based traditions and democratic decision-making processes have the potential to encourage them to be core members in forest protection and natural resource conservation.
- The culture of ethnic minorities is cemented by the forest and its wildlife.
- Notably, the women's role is highly respected in not only matriarchical societies, but in other communities as well. Their daily lives are intertwined with the forest; as the core of the family, they produce food, fetch logs and water, and raise animals to feed their children. They will gradually depend less on the forest if their family's living standards are improved. Only then, animal hunting will cease to be the main income for households.
- The rights and obligations of the inhabitants regarding the protection of the natural environment should be effectively promoted, in order to help raise their awareness of the value of the region's biodiversity. Social organizations need to be strengthened to ensure local environment maintenance and natural resource management.
- Holistic, inter-sectoral cooperation among the relevant agencies at central or local levels is needed; most importantly their participation in devising and implementing plans under a united programme is needed.
- The Central Truong Son Landscape's conservation and development should be recognized in strategic national and sub-national development policies.

The Central Truong Son Landscape's natural resource management and conservation play an important role in the national and regional development. This is not only relevant to biodiversity and environmental protection issues, but also to the conservation of ethnic minorities' identity and cultural values in the region.

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## **ABBREVIATIONS AND ACRONYMS**

BEMMA	Provincial Committee for Ethnic minorities and mountainous area affairs
CEMMA	State Committee for Ethnic Minorities and Mountainous Area Affairs
DAFP	Department of Agro-forestry and Pisciculture
DARD	Department of Agriculture and Rural Development
DoE	Department of Education
DoI	Department of Industry
DoL	Department of Land
DOLISA	Department of Labor, Invalid and Social Affairs
DoS	Department of Statistics
DPC	District People's Committee
DRNEZ	Department of Resettlement and New Economic Zones
FAO	Food and Agriculture Organization
FPD	Forest Protection Department
FU	Farmer's Union
GDPT	General Department of Post and Telecommunication
HPP	Highland People's Programme
MARD	Ministry of Agriculture and Rural Development
MoCI	Ministry of Culture and Information
MoET	Ministry of Education and Training
MoH	Ministry of Health
MOLISA	Ministry of Labor, Invalid and Social Affairs
MPI	Ministry for Planning and Investment
PPC	Provincial People's Committee
SFPD	Sub-department of Forest Protection
VEC	Vietnam Electricity Corporation
WU	Women's Union
WWF	World Wide Fund For Nature



## **PART I: PREFACE**

### **1.1 Introduction**

The Central Truong Son Landscape is recognized to be of critical importance for biodiversity conservation on national, regional, and global scales. With clear awareness of the significance and importance of conservation of the country's natural wealth within the national development strategy, the Forest Protection Department under MARD and WWF have together implemented series of activities with the mandate to promote regional strategic conservation.

In November 2000, a meeting was held in Hue between numerous different stakeholders, including scientists, Government officers, the state management officers from central level and local levels with the aim at promoting and absorbing initiatives to ensure the long-term conservation of the Central Truong Son Landscape.

Through the systematical approach to issues related to conservation, and especially through the process and cycle of development, many opportunities, challenges, barriers have been uncovered. In addition to the knock-on effects of the war, the socio-economic growth in the region has experienced huge changes and variations, during the recent decades. It is essential to conduct precise analysis of the socio-economic situation, to determine the influencing factors in order to put forward the priorities and conventions.

Information collection and analysis activities are operational with the support from the provincial working groups selected and made contract by WWF (the working groups were not established in Binh Dinh and Quang Ngai provinces, as they did not fall within the original prioritized areas). Field trips were organized to work with the local working groups of the eight provinces.

#### ***The implementation process and support from the local working groups***

1. *Preparation of the list of information, data, and reports that need collecting.* The information is listed in the nomenclature of the table index at the provincial, district, and communal levels. A work agenda and content list was sent to provincial teams 10 days in advance to allow preparation of information, documents, and site visits.

2. *Working with the local groups:* as planned, information collection was implemented with the help of the provincial working groups. Each group was comprised of three people: one from People's Committee office, and the remaining two members from DARD and SFPD. The head of group who works in DARD or SFPD was responsible for liaison and support for the activities.

In addition, the working group worked with the agencies in charge of Ethnic minority affairs to collect further information and supplement the information collected by the local working groups, especially information regarding to Ethnic minorities and mountainous areas issues.

3. *Further information collection, summary and report on the study:* conducted from Hanoi  
This study report is divided into four parts:

**Part I:** An overview of the socio-economic issues of the Central Truong Son Landscape's provinces, mentioning the geographical location, administration, the socio-economic issues and the development tendencies of some key provinces in the region.

**Part II:** focuses on providing information to form the basis of analyzing some economic, cultural, and social features of the Ethnic minorities and mountainous areas, in relation to the location and objectives of the conservation actions.

**Part III:** touching upon the groups/organizations involved in region's conservation.

**Part IV:** consequences and related recommendations.

The conceptions in this study originated from researching members. However, they are also based on databases, study reports, and reports from various organizations/local agencies.

## **1.2 Overall goals, scope, study methodology and progress**

### **1.2.1 Overall goal**

This study aims to give an initial background of the current issues and the orientation of socio-economic development in the eight provinces of the region with particular regard to agro-forestry, healthcare, education, population, labor, migration, poverty and starvation. Thus providing an overall view of the factors relating directly or indirectly to biodiversity conservation. In addition, this report provides an analysis of the Ethnic minorities and mountainous areas (the areas within the boundary of the Central Truong Son Priority Landscape), with regard to some important aspects such as the system of traditional society, traditional cultivation and income sources.

The study then provides the data that forms the basis for the analysis and evaluation of the environmental/socio-economic picture.

### **1.2.2 Scope of information collection and assessment**

The information collection was conducted in eight provinces: Quang Tri, Thua Thien Hue, Da Nang, Gia Lai, Kon Tum, Quang Ngai and Binh Dinh.

Information collected can be summarized within the following groups: administration, population, labor, land-use, agro-forestry production, healthcare, education, infrastructure, hunger alleviation and poverty reduction.

Degree of information: Data was chiefly collected at provincial level, with additional data at district, commune and community levels.

The related agencies: FPD - MARD, DARD, BEMMA, DRNEZ, DOLISA

### **1.2.3 Collection and analysis methods**

Collection of quantitative and qualitative data was compiled with the basic information list already available in existing documents and reports from localities.

Expert method: based on the results of discussion and information exchange, provided for the specialists and management officers.

RRA: collection and analysis of information from meeting and working with villagers.

Comparative: as the data are not homogenous and of unity, the most reliable or united data will be selected - for example from the Provincial People's Committees (PPC), the Departments of Statistics, or the Provincial Committee for Ethnic Minorities and Mountainous Area Affairs (BEMMA).

Analysis and synthesis method: based on secondary data. The data are built, synthesized and evaluated as requested.

### **1.3 Limitations and challenges**

Throughout the process, we have been met with willing support from the working group members as well as the functional agencies. However, several limitations and difficulties have made an impact on the quality and progress of this study.

#### **1.3.1 With regard to scope and essence**

The objectives and requirements are much bigger than the provided resources including human resource, time and available funds.

Information collection was carried out in a large area comprised of eight provinces (covering 46 districts with nearly 600 communes/wards). Besides this, it is very difficult to distinguish the assessment and analysis of general issues from those in regional provinces recognized to be in conservation areas (46 districts).

The information collected includes various sectors (such as health care, education, infrastructure, agro-forestry, population, ethnic minorities) and multiple subjects within a sector.

Detailed data was also requested: including information at three levels (Provincial, district, and communal levels).

#### **1.3.2 As for the information provided**

The central level data: the Central Truong Son Landscape is geographically defined through conservation requirements, rather than as an economic region of Vietnam. Consequently, the required data collection and evaluation on this region has not been done, resulting in barriers in processing information and synthesising the data.

The information content and the indicators related to socio-economic issues as per requested have not been systematically supervised and synthesized leading to the insufficient fundamental indicators at provincial, district levels and especially at communal level. The reports from local agencies place more emphasis upon qualitative and common data.

Data from different sources is neither homogenous nor unified.

### **1.3.3 Other problems**

Each province established a group of three members to support the activities. In practice however, there was limited participation for a number of reasons. For example, only one member participated in Kon Tum, plus two in Hue, Quang Tri, and Quang Nam respectively. In general, it seemed the work was mainly carried out by the head of group, and that the participation of the other members was limited.

The data collection was quite complicated as it is related to many different agencies while the partners were not ready to meet the requests. Barriers to collection appeared, and there was very little support in T.T Hue province.

In order to complete the task, the working group took the initiative of planning to work with Provincial State Committees for Ethnic Minorities and Mountainous Area Affairs (CEMMA), as well as with the other agencies, which facilitated and provided data. The information collected from Binh Dinh and Quang Ngai provinces depended entirely on Provincial CEMMAs as these provinces did not establish working groups.

## **PART II: AN OVERVIEW OF THE SOCIO-ECONOMIC ISSUES**

### **2.1 Geographic location and administration <sup>1</sup>**

The Central Truong Son Landscape is centered on the geographical area comprising of six provinces: Quang Tri, Thua Thien Hue, Quang Nam, Da Nang, Gia Lai and Kon Tum with two supplementary provinces: Binh Dinh and Quang Ngai. The area covers 83 administrative units at the district/town level with 1,130 communes, wards and townships. The total area is 57,928.83 km<sup>2</sup>, which represents 17% of the whole country's area. Of which, the mountainous - highland area makes up more than 75% of the total natural area. Its population is 7,670,194 people, constituting around 10% of the total population; population density is 132 people/km<sup>2</sup>. The CTSL is the home to 33 different ethnic groups and nine indigenous groups. Among them, there are small ethnic groups such as the Brau and Ro Mam.

The Central Truong Son Landscape with the mighty southern and northern Truong Son massifs is considered as the most uncolonisable part of the Central Provinces. The mountain range runs from north to south, with the majority of the terrain slopping from west to east. The region includes high mountain peaks such as Ngoc Tien (2,032m), Ngoc Lum Leo (2,023m) and Ngoc Linh (2,598m), the highest mountain of the Southern Truong Son range.

The river systems of the central region and highlands originate from here, with a huge network of rivers such as the Huong, Vu Gia - Thu Bon, Tra Khuc, and Ba rivers that mainly run towards the coast. Some of other river systems (chiefly the Sesan) lie in the Mekong basin running through Lao P.D.R. to the East Sea.

Due to highly mountainous terrain and isolation, almost all of the inhabitants settle in the plains, near the coast. The huge western portion lies very far from the centers of development, with fewer people and poorly developed economic conditions.

Besides the advantages, there are disadvantages to the socio-economic development process in this region. The Central Truong Son Landscape still is evaluated as the poorest region of the country. There are 234 communes in extreme difficulty in the region, from a total of 2,325 communes that benefited from the National Programme 135, accounting for 11.62% <sup>2</sup>.

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<sup>1</sup> Data source: Eight provinces' statistics, 1999-2000

<sup>2</sup> List of extreme communes, secure areas that benefited from Programme 135, CEMMA, 5/2001

**Table 1: Administration and population in the Central Truong Son provinces  
1999-2000**

No	Province	Area (km <sup>2</sup> )	Administrative units (distric, town)	Administrative units (communes, ward)	Population 1999 (people)	Density (people /km <sup>2</sup> )	Annual growth rate (%)
1	Quang Tri	4,592.00	9	136	576,666	126	1.76
2	T.T Hue	5,053.99	9	150	1,049,460	207	1.74
3	Da Nang	1,248.40	7	47	702,546	563	1.50
4	Quang Nam	10,406.83	14	217	1,375,928	132	1.65
5	Quang Ngai	5,131.51	13	179	1,198,500	234	1.21
6	Binh Dinh	6,025.60	11	152	1,485,600	246.5	1.45
7	Gia Lai	15,496.00	13	170	958,251	61.8	2.43
8	Kon Tum	9,614.50	7	79	327,570	34.1	2.55
	<b>Total</b>	<b>57,568.83</b>	<b>83</b>	<b>1,130</b>	<b>7,674,521</b>	<b>132.48</b>	

Source - Provinces' annual statistics 1999 -2000

**Table 2: Mountainous areas and Highland areas - areas II and III  
Clarified according to development rate**

No	Province	No. II area			No. III area		
		Communes (No./rate)	Household (No./rate)	People (No./rate)	Communes (No./rate)	Household (No./rate)	People (No./rate)
1	Quang Tri	21/ 44.68 %	9,015/47.47 %	47,134/49.45 %	19/40.42 %	4,868/25.63 %	20,658/21.67 %
2	Thua Thien	23/ 53.49 %	9,661/ 58 %	50,653/56.01 %	18/41.86 %	4,375/26.26 %	25,757/28.48 %
3	Quang Nam	38/ 36.54 %	35,931/ 6.33 %	169,255/46.39 %	51/49.04 %	14,805/19.38 %	78,831/21.61 %
4	Da Nang	3/75 %	2,385/ 52.21 %	10,298/52.55 %	-	-	-
5	Kon Tum	40/52.63 %	27,683/ 4.85 %	147,129/54.49 %	26/34.21 %	9,513/18.85 %	48,199/17.85 %
6	Gia Lai	61/39.10 %	52,905/ 6.94 %	289,158/36.8 %	55/35.26 %	26,911/18.79 %	146,972/18.72 %
7	Quang Ngai	20/31.74 %	15,063/40.76 %	82,157/46.82 %	43/68.25 %	21,530/58.83 %	93,316/53.18 %
8	Binh Dinh	21/45.65 %	27,665/51.73 %	120,049/ %	22/48.88 %	11,060/30.22 %	53,826/30.67 %
	<b>Total</b>	<b>227</b> communes	<b>180,308</b> households	<b>953,725</b> people	<b>234</b> communes	<b>93,062</b> households	<b>467,559</b> people

Source - CEMMA and Provinces' statistics

## 2.2 Socio-economic issues

### 2.2.1 Population and labor

#### *Population and distribution*<sup>3</sup>

The total population is 7,674,521 people, making up nearly 10% of the national population. The density is 132.48 people/km<sup>2</sup>. This seems similar to the average index for the country, but from a regional angle, the density in this region is higher than that in the northern mountainous areas and southern central highlands. Inhabitants are distributed variably, living mainly in the plains close to the coast of Thua Thien Hue, Quang Nam, Quang Ngai, Binh Dinh; in the valleys along the rivers where it is convenient for wet rice cultivation; or along the main national roads, such as No. 1A, N19, N14, N9. The speed of urbanization has also increased population in the big cities such as Da Nang and Plei Ku, with densities of 563 people/km<sup>2</sup> and 737 people/km<sup>2</sup> respectively, while the density in Kon Tum is only 34 people/km<sup>2</sup>. The mountainous areas, closer to the west, are much more thinly populated. In some large areas, such as the area bordering Lao P.D.R., the population density is extremely low.

The urban population accounts for 26.53% while 73.47% is in the rural areas because agriculture is the dominant production industry in the region. The establishment and growth of the administrative management units - such as city, town, and township - increase the population of the urban areas. The population of Kon Tum, a highland province, accounts for 32% of the region's people, far higher than in any of the other provinces. In practice, many people in the urban areas still earn their living by cultivating and raising animals or by doing other agro-forestry activities.

**Table 3: Population and labor in the CTSL'S provinces 1999-2000**

No	Province	Population 1999-2000 (people)	Density (people/km <sup>2</sup> )	Urban population (%)	Rural population (%)	Labor force (people)
1	Quang Tri	576,666	126	22.35	77.65	270,248
2	T.T Hue	1,049,460	207	29.45	70.55	556,160
3	Da Nang	702,546	563	79.00	21.00	409,450
4	Quang Nam	1,375,928	132	14.92	85.08	659,119
5	Quang Ngai	1,198,500	234	11.59	88.41	594,010
6	Binh Dinh	1,485,600	246.5	24.07	75.93	793,700
7	Gia Lai	958,251	61.8	24.74	75.26	510,107
8	Kon Tum	327,570	34.1	32.07	67.93	159,930
	<b>Total</b>	<b>7,674,521</b>	<b>132.48</b>	<b>26.53</b>	<b>73.47</b>	<b>3,952,724</b>

Source - Provinces' statistics 1999-2000

The population growth rate in the region is 1.65% - higher than the country's average rate of 1.53%. The provinces with the highest annual growth rate include Kon Tum (2.55%) and Gia Lai (2.43%), while rates are lower in Thua Thien Hue (1.74%) and Da Nang (1.50%), and are significantly lower in Quang Ngai (1.21%<sup>4</sup>).

<sup>3</sup> Data source: Eight provinces' statistics, 1999-2000

<sup>4</sup> Data source: provinces' report in 2000

There is a large gap in the natural population growth rate between the low and high lands, ranging from 0.2% to 0.5% depending on the area. In Dak Doa (Gia Lai province) the annual growth rate can reach 4%.

The population growth rate between the rural and urban areas also shows great disparity, as much as 0.5-1%. The highland communities and ethnic minorities contribute to this number. In recent years, the Ministry of Health has implemented many programmes with a view to reducing the overpopulation rate, and to take care of people's health at the same time. However, the results still show the limitations in the highlands, because the conditions and practices of supporting services as well as the propaganda have not been supportive to the beneficiaries.

The growth rate is less high in some poor areas of T.T. Hue and Quang Tri, partly because people migrate to other provinces, while the highland provinces have to suffer great pressure from the steady growth rate.

### ***Labor***<sup>5</sup>

According to 1999 statistics, there are 3,952,724 people of working age in the region, accounting for 51% of the population in the region. The young labor structure is a very important force contributing to the socio-economic construction and development of the region. However, the labor force differs among the provinces, e.g. 58% in Da Nang City, 48% in Kon Tum and only 46% in Quang Tri. This is partly explained by the movements of the labor force between the less developed and more developed areas. In addition, there is a high natural birth rate in some poor areas.

### **2.2.2 Ethnic minorities**

#### ***Population and residence***

According to the list of ethnic minority groups in Vietnam (declared in 1978), the CTSL has endogenous communities with the following language origins:

+ **South Asian origins:** Mon-Kho Me group: Ba Na, Xo Dang, Co Tu, Bru, Van Kieu, Ta Oi, Gie -Trieng, Co, Ro Mam, and Brau.

+ **Malayo-Polynesian origins:** Malayo-Polynesian group: Gia Rai

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<sup>5</sup> Data source: Eight provinces' statistics, 1999-2000

**Table 4: List of ethnic minority groups in the CTSL <sup>6</sup>**

No	Ethnic	Original name	Other name	Local branches	Population
1	Ba Na	Ba Na	BoNam, Roh, KonKde, Ala Kông, Kpang Kông Lar, Krem	Ro Ngao, Ro Long (Y lang) To Lo, Go	147,318
2	BrauBrao				231
3	Bru -Van Kieu	Bru	Bru, Van Kieu	Vân Kieu, Tri, Khua, Ma Coong	49,339
4	Co	Cor, Col	Cua, Trau		49,131
5	Co Tu	Co Tu	Ca Tu, Ka Tu		51,922
6	Gia Rai	Gia Rai	Gio Ray, Cho Ray	Chor, Hông (including Hbau, Chor), A Rap, Mthur, Tobuan	309,528
7	Gie - Trieng	Gie, Trieng, Ve, Bnoong	Ca Tang, Giang Ray	Gie (Gie), Trieng, Ve, Bnoong (Mnoong)	28,900
8	Hre	Hre	Cham Re, Chom, Thuong Ba To, Moi Luy, Moi Son Phong, Moi Da vach, Cham Quang Ngai, Moi, Chom, Re, Man Thach Bich		105,627
9	Ro Mam				227
10	Ta Oi		Toi Oi, Pa Co, Ta Oi, Kan Tua, Pa Hy (Ba Hy)	Ta Oi, Pa Co, Pa Hy	30,699
11	Xo Dang	Xo Teng, To Dra, Mnam, Ca Dong, Ha Lang, Ta Tri, Chau	Xe Dang, Kmram, Con Lan, Brila	Xo Trng, To Dra, Mnam, Ca Dong, Ha lang, Ta, Tri, Chau	101,752
12	Other Ethnic	Mong, Nung, Tay, Thai, Muong, Dao			85,685

*Source - Reports from Provinces*

According to the census dated April 1, 1999, the ethnic minorities in the region account for 936,359 people within 16 ethnic groups, making up 12% of the national ethnic minority population. The greatest number of people belong to the Gia Rai group (309,528 people which comprises 34% of the population in Gia Lai), followed by the Ba Na with 147,318 people. Smaller groups include the Xo Dang (101,752 people) and Ta Oi (30,699) with some groups consisting of very few people, such as the Brau and Ro Mam with less than 300 people <sup>7</sup> each.

<sup>6</sup> CEMMA's notebook, 2001

<sup>7</sup> CEMMA's 2001 reports

**Table 5: Locations of ethnic minority populations in the Central Truong Son Landscape**

No	Name of Ethnic Group	Total	Quang Tri	T.T Hue	Quang Nam	Kon Tum	Gia Lai	Quang Ngai	Binh Dinh
1	Ba Na	147.318	-	-	-	14.000	118.083	-	15.235
2	Brau	231	-	-	-	231	-	-	-
3	Bru-Van Kieu	49.339	40.819	8.520	-	-	-	-	-
4	Cor	26.131	-	-	4.727	-	-	21.404	-
5	Co Tu	51.922	-	9.100	36.822	6.000	-	-	-
6	H're	105.627	-	-	-	-	-	98.015	7.612
7	Gia Rai	309.528	-	-	-	15.466	294.062	-	-
8	Gie-Trieng	28.900	-	-	14.900	14.000	-	-	-
9	Ro Mam	227	-	-	-	227	-	-	-
10	Ta Oi	30.699	10.179	20.520	-	-	-	-	-
11	Xo Dang	101.752	-	-	32.267	52.000	-	17.485	-
12	Tay	5.830	-	-	-	x	5.830	-	-
13	Nung	3.583	-	-	-	x	3.583	-	-
14	Muong	3.056	-	-	-	x	3.056	-	-
15	Thai	1.110	-	-	-	x	1.110	-	-
16	Cham	4.393	-	-	-	x	-	-	4.393
17	Others	67.713	25	-	3.296	57.003	3.176	1.243	1.745
	Total population	936.359	51.248	37.500	92.012	158.927	428.900	138.147	28.985
	% compared with province population	12%	9%	3,54%	6,8%	48%	44%	11,00%	1,00%

Source - 2000 Report from regional provinces

X: Unavailable

Note: Da Nang holds 804 people from Catu ethnic minority group at Hoa Vang mountainous area

Kon Tum and Gia Lai are the two provinces with the highest numbers of ethnic minority people, accounting for 48 % and 44% of the total by roster.

Thirty-seven ethnic minority groups have settled in the CTSL. Of these, 11 have resided in the area for many generations. They are the Bru-Van Kieu, Ta Oi, Brau, Ro Mam, Cor, Cham, Gie Trieng, Hre, Xo Dang, Ba Na and Gia Rai. Other ethnic minority groups that originated from the north, such as the Tay, Nung, Muong and Thai also contribute a large number of people. They have settled predominantly in areas that are convenient for cultivation or are advantageous in terms of transport and travel.

Despite comprising only 9% of the total population in the region, the ethnic minorities often live side by side in the rural, mountainous areas along the Truong Son range where there are many primary forests and protected forests. The Kinh people principally reside in the lower areas, coastal plains or in the valleys along the edges of rivers, towns, and townships.

According to the population census carried out on 1/4/1999, the Kinh people make up 88.74% of the population in Plei Ku City (Gia Lai province), while in An Khe district they comprise 90.90% of the population. The population fluctuates between 30 and 50%<sup>8</sup> in other districts.

The areas in which ethnic peoples have settled are distinctive in the CTSL. Their residential areas bear the typical features of their respective cultures. For example, at the mention of “Gia Lai”, the Gia Rai group surely is recalled; the same is true of the Xo Dang and the Ba Na in Kon Tum. The different ethnic minority groups live closely together, although not on a large scale. However, in recent years, close settlement has become more popular, particularly after the appearance of the Tay, Nung, Thai, and Muong migrant groups. The number of migrants has reached 85,685 people, making up 9% of the ethnic minority population in the region; they have settled mainly in Gia Lai and Kon Tum.

The resettlement of the ethnic minority groups contributes to local development and enriches the economic, cultural and ethnic landscape of the CTSL.

### **2.2.3 Economic growth rate and transference of economic mechanisms<sup>9</sup>**

In recent years, the growth in the regional provinces’ GDPs has been positive. The average GDP in the region gained over 9% annually during the period 1996-2000, which was higher than the national average rate. In particular, Gia Lai and Kon Tum achieved relatively high growth rates (12.65% and 9.85% respectively), which mainly were dependent on the growth of the agro-forestry industry (15.7% and 10.7%).

The yields of industrial plantations, namely coffee, rubber and pepper, have made important contributions to the GDPs. However, the profit yielded by such goods depends heavily on export markets. During 1999-2000, natural disasters, drought and the fall in the price of agricultural products resulted in the decrease in the economic growth rates of these provinces.

Da Nang city has a fairly high growth rate of 10.33% that is dependant mainly on the industry-construction sector’s growth rate (15.53%). This sector represents 40.7% of Da Nang city’s GDP, which is a high rate compared with those of the regional provinces in particular and of the country as a whole.

In general, the region still relies on agro-forestry production, which represents 50% to 60% of each provinces’ GDP. The highest percentage is attributed to Gia Lai, which accounted for 57% in 2000; this was the only province that enjoyed a continually increasing rate in recent years. In contrast, the rate has gradually decreased in other provinces, at a relatively slow rate of 2%-3% over a four-year period (1996-2000).

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<sup>8</sup> Gia Lai population census in 1999

<sup>9</sup> Data source: provinces’ reports on socio-economic development (2001-2005) and 2010

**Table 6: Provinces' GDP in the CTSL 1996-2000**

Currency unit: million dong

No	Norm/Quota	1996	1997	1998	1999	2000
1	Quang Tri	1049002	1229938	1397049	1516155	-
2	T.T Hue	2363674	2657617	3013684	3043301	5678167
3	Da Nang	2804916	3208823	3725443	4273542	-
4	Quang Nam	-	2917235	3373768	3689303	-
5	Quang Ngai	-	-	2748421	2920179	-
6	Binh Dinh	3122391	3435167	3856001	4181271	4591932
7	Gia Lai	1571199	2001162	2281943	2527525	-
8	Kon Tum	554467	620081	719004	750750	844367

*Source - Statistic almanacs and reports from provinces in 1999-2000*

T.T. Hue's agro-forestry sector has declined from 28.2% to 22.3%, partly due to damage caused by an historic flood in 1999. Its economic growth rate has decreased by 1.8% annually.

Quang Nam's agro-forestry sector has also been reduced from 50% to 42%. As part of the province's efforts at re-establishment, infrastructure construction and the development of the industrial sector have been combined.

The growth rate of the industry-construction sector has increased dramatically in recent years, for example in Da Nang (15.53%), Quang Nam (18%), and Kon Tum (14.5%). This has resulted mainly from the development of the construction sector in response to urbanization, as well as from investments in the technology sector and in infrastructure construction.

**Table 7: Percentage of value mechanism of key economic sectors**

No	Provinces	Gross Product value in 2000 (million VND*)	Sectoral mechanism in 1996 - 2000			Expected agroforestry proportion in 2005 %
			Agroforestry %	Industry-Construction %	Commerce-Service %	
1	Quang Tri	1,516.15	50.40 - 48.00	11.10 - 11.90	38.50 - 40.10	-
2	T.T Hue	3,043.30	28.20 - 22.30	28.00 - 32.70	43.80 - 45.00	20.00
3	Da Nang	4,273.54	10.64 - 7.60	32.22 - 40.70	57.14 - 51.70	5.00
4	Quang Nam	3,689.30	50.00 - 42.20	18.50 - 24.10	31.30 - 33.50	32.00
5	Gia Lai	2,177.80	55.05 - 57.90	20.95 - 19.60	24.00 - 22.50	49.50
6	Kon Tum	776,782	48.40 - 48.92	14.40 - 13.07	37.20 - 38.01	40.28
7	Quang Ngai	2,929.17	X - 43.25*	X - 20.17*	X - 36.58*	-
8	Binh Dinh	3,661,337	51.10 - 42.30	15.60 - 22.70	33.40 - 35.00	-

*Source - Annual statistics and reports of PPC's in 1999-2001*

The commerce - tourism - service sector generally accounts for 25%-40% of the provinces' economy. The most extreme examples can be found in Da Nang (51.7%) and Gia Lai (24%). This is a lower rate than that of other industries, and depends heavily on the central - as well as the local - industrial sector and on the improvement of living standards.

In general, the development of the economic sectors has gradually reduced the provinces' dependence on the agricultural sector, subjoining the industry-construction and commerce-tourism-service sectors. However, progress has been slow, especially in the poor and purely agricultural provinces such as Quang Tri and Kon Tum.

Income per capita in the provinces is approximately 200 USD/year, which is equivalent to 70% of the national figure. The highest figure is found in Da Nang (436 USD/year), in contrast to Kon Tum at only 170 USD/year. Gia Lai's GDP amounts to only 44% of that of the country.

**Table 8: Growth rate of the provinces' main sectors in the Central Truong Son Landscape 1996-2000**

No	Province	Economic growth rate 1996-2000 (%)	Growth rate of the provinces' main sectors 1996-2000		
			Agro-forestry	Industry-construction	Commerce-tourism-service
1	Quang Tri	-	-	-	-
2	T.T Hue	6,30	1,80	9,50	7,10
3	Da Nang	10,33	3,96	15,53	8,18
4	Quang Nam	7,60	3,10	18,00	12,00
5	Gia Lai	12,65	15,70	10,80	6,45
6	Kon tum	9,85	10,70	14,50	6,80
7	Quang Ngai	-	7,38*	8,50*	5,13*
8	Binh Dinh	8,60	7,40	24,50	8,00

Source - Statistic almanacs and reports from the provinces people's committee in 1999-2000

Note: 1999 data

Food per head in the region is 300 kg, meeting the minimum level advised by the Food and Agriculture Organization (FAO). However, the food produced is not well distributed throughout the year. A low yield of rice and a higher yield of maize and cassava in the mountainous areas results in a lack of rice between crops. A shortage of food for three to four months each year continues to occur in many households located in the more mountainous and remote areas.

**Table 9: Provinces' 1999 income per head in the CTSL**

No	Province	Income per head		Equivalent of rice kg/head
		VND1000	USD	
I	Quang Tri	2,629.2	188.4	344.6
II	T.T Hue	2,899.9	207.8	220.0
III	Da Nang	6,082.9	436.0	84.83
IV	Quang Nam	2,681.3	192.1	308.7
V	Quang Ngai	2,436.5	174.6	315.2
VI	Binh Dinh	2,848.3	204.1	-
VII	Gia Lai	2,637.6	194.0	267.5
VIII	Kon Tum	2,372.0	170.3	-
	<b>Total</b>	<b>2,984.2</b>	<b>213.87</b>	-

Source - Statistic almanacs and reports from provinces in 1999-2000

**Table 10: Economic growth rate in Quang Tri**

Unit: million dong

No	Norm/Quota	1996	1997	1998	1999
1	Total GDP <i>Compared with last years (%)</i>	1049002 -	1229938 107	1397049 113.58	1516155 108.52
2	GDP of agro-forestry-aquiculture <i>Compared with last years (%)</i>	528710 -	626182 118.43	632537 101,01	727583 115
3	GDP of industry-construction <i>Compared with last years (%)</i>	116440 -	134606 115.60	166249 123.50	179651 108.06
4	GDP of commerce-tourism-service <i>Compared with last years (%)</i>	403852 -	469150 113.69	598263 127.52	608921 101.78

Source - Statistic almanacs and reports from Quang Tri province in 1999-2000

**Table 11: Economic growth rate in Thua Thien Hue**

Unit: million dong

No	Norm/Quota	1996	1997	1998	1999
1	Total GDP <i>Compared with last years (%)</i>	2363674 -	2657617 112.43	3013684 113.39	3043301 100.98
2	GDP of agro-forestry-aquiculture <i>Compared with last years (%)</i>	666311 -	713304 107.05	776928 108.91	669826 86.21
3	GDP of industry-construction <i>Compared with last years (%)</i>	661595 -	761673 115.12	873215 114.64	928711 106.35
4	GDP of commerce-tourism-service <i>Compared with last years (%)</i>	1035768 -	1182620 114.17	1363541 115.29	1444764 105.95

Source - Statistic almanacs and reports from T.T Hue province in 1999-2000

**Table 12: Economic growth rate in Da Nang City**

Unit: million dong

No	Norm/Quota	1996	1997	1998	1999
1	Total GDP <i>Compared with last years (%)</i>	2804916 -	3208823 114,39	3725443 116,09	4273542 114,71
2	GDP agro-forestry-aquiculture <i>Compared with last years (%)</i>	298532 -	311375 104,30	331922 106,59	3521421 106,09
3	GDP of industry-construction <i>Compared with last years (%)</i>	903604 -	1133066 125,39	1400915 123,63	1664353 118,80
4	GDP of commerce-tourism-service <i>Compared with last years (%)</i>	1602780 -	1764382 110,08	1992606 112,93	2257047 113,27

Source - Statistic almanacs and reports from Da Nang City in 1999-2000

**Table 13: Economic growth rate in Binh Dinh**

Unit: million dong

No	Norm/Quota	1996	1997	1998	1999	2000
1	Total GDP <i>Compared with last years (%)</i>	3122391 -	3435167 110.01	3856001 112.25	4181271 108.43	4591932 109.82
2	GDP of agro-forestry-aquiculture <i>Compared with last years (%)</i>	1591283 -	1702018 106.95	1820940 106.98	1888927 103.73	1952955 103.38
3	GDP of industry-construction <i>Compared with last years (%)</i>	486830 -	564712 115.99	686447 121.55	810132 118.01	1036766 127.97
4	GDP of-tourism-service <i>Compared with last years (%)</i>	1044278 -	1168437 111.88	1348614 115.42	1482212 109.90	1602211 108.09

Source - Statistic almanacs and reports from Binh Dinh province in 1999-2000

**Table 14: Economic growth rate in Gia Lai**

Unit: million dong

No	Norm/Quota	1996	1997	1998	1999
1	Total GDP <i>Compared with last years (%)</i>	1571199	2001162 127.36	2281943 114.03	2527525 110.76
2	GDP of agro-forestry-aquiculture <i>Compared with last years (%)</i>	822560	1097174 133.38	1231227 112.21	1416133 115.01
3	GDP of industry-construction <i>Compared with last years (%)</i>	348912	469789 134.64	549939 117.06	549479 99.91
4	GDP commerce-tourism-service <i>Compared with last years (%)</i>	399727	434199 108.62	500777 115.33	561913 112.20

Source - Statistic almanacs and reports from Gia Lai province in 1999-2000

**Table 15: Economic growth rate in Kon Tum**

Unit: million dong

No	Norm/Quota	1996	1997	1998	1999	2000
1	Total GDP <i>Compared with last years (%)</i>	554467	620081 118.83	719004 115.95	750750 104.41	844367 112.46
2	GDP of agro-forestry-aquiculture <i>Compared with last years (%)</i>	268381	303580 113.11	363888 119.86	362646 99.65	3819 105.31
3	GDP of industry-construction <i>Compared with last years (%)</i>	79500	83568 105.11	89453 107.04	93217 104.20	1340 143.84
4	GDP of commerce-tourism-service <i>Compared with last years (%)</i>	206586	232933 112.75	265663 114.05	294941 111.02	328350 111.32

Source - Statistic almanacs and reports from Kon Tum province in 1999-2000

**Table 16: Economic growth rate in Quang Nam**

Unit: million dong

No	Norm/Quota	1997	1998	1999
1	Total GDP <i>Compared with last years (%)</i>	2917235	3373768 115.64	3689303 109.35
2	GDP of agro-forestry-aquiculture <i>Compared with last years (%)</i>	1391549	1569510 112.70	1635671 104.21
3	GDP of industry-construction <i>Compared with last years (%)</i>	572945	703113 122.71	830550 118.12
4	GDP of commerce-tourism-service <i>Compared with last years (%)</i>	952741	1101145 115.57	1223082 111.07

Source - Statistic almanacs and reports from Quang Nam province in 1999-2000

**Table 17: Economic growth rate in Quang Ngai**

Unit: million dong

No	Norm/Quota	1998	1999
1	Total GDP <i>Compared with last years (%)</i>	2748421	2920179 106.24
2	GDP of agro-forestry-aquiculture <i>Compared with last years (%)</i>	1220403	1262862 103.47
3	GDP of industry-construction <i>Compared with last years (%)</i>	530767	589039 110.97
4	GDP of commerce-tourism-service <i>Compared with last years (%)</i>	997251	1068278 107.12

Source - Statistic almanacs and reports from Quang Ngai province in 1999-2000

## 2.2.4 Agro-forestry industry <sup>10</sup>

Agro-forestry production plays an important role in the region's economy; it has become an essential source of income for nearly 80% of the population. During 1996-2000, the industry accounted for approximately 50% of the GDP in Quang Tri, Quang Nam, and Kon Tum provinces. In Da Nang City, it accounted for only 10.64% and in Gia Lai it reached up to 55%.

During the period 1996-2000 in Quang Tri, T.T. Hue and Quang Nam provinces, the average growth rate of the wet rice cultivation sector was 3.0%, which was lower than the national average rate. This is an extremely difficult area for agricultural cultivation; the area for cultivation per head is limited, and is blighted by natural disasters (i.e. flooding occurs frequently). In particular, the 1999 flood impacted both agricultural production and peoples' lives in the mountainous areas as well as on the coastal plains. It reduced the rate of GDP growth and specifically, of growth in the agro-forestry sector in many provinces. A typical example can be found in Thua Thien Hue, where the agro-forestry growth rate dropped to -3.94%.

In contrast, Binh Dinh and Quang Ngai gained over 7%, partly due to the noticeable rate of the aquatic industry's growth, which is second to that of the agro-forestry sector. In recent years, considerable attention has been given to achieving greater output. Kon Tum gained 10.7%, of which the forestry sector - in particular, wood exploitation and processing - accounted for 10.64% of the GDP.

Gia Lai is recognized as the province with the highest agro-forestry sector growth rate in the region (15.7%). This stems from the cultivation of coffee, pepper and rubber, together with the increase in the production of vegetables and of several other foods. During 2000 -2001, the fall in the price of coffee and pepper on the international markets severely decreased the value and density of goods, as well as the GDP growth rate. The turbulent growth rate of industrial plantations has changed the land-use structure and has visually limited the forest area in many localities.

The total agricultural land area in the region covers 826,048.52 ha, representing 14.30% of the natural land area. Such land area is mainly distributed in the coastal area and the basins of the Huong, Vu Gia, Thu Bon, and Tra Khuc rivers where it is convenient for wet rice cultivation. Gia Lai province contributes by far the greatest proportion of agricultural land, at 277,336 ha. The majority of its area is classified as bazan red soil, which is most suitable for long or short term industrial tree-growing.

**Table 18: Land Used in the CTSL during 1999-2000**

No	Type of land	Total area	Quang Tri	T.T Hue	Da Nang	Quang Nam	Quang Ngai	Binh Dinh	Gia Lai	Kon Tum
	Natural land area	5,772,660.68	474,573.56	505,399	124,840	1,040,747	513,520.12	602,560	1,549,571	961,450
1	Agriculture land area	826,048.52	68,928.94	59,000	12,837	110,606	99,055.58	116,900	277,336	81,385
2	Forestry land area	2,672,517.34	149,812.97	224,500	61,776	430,033	144,163.37	193,700	854,060	614,472
3	Normally used land	204,458.32	18,255.97	21,100	37,782	26,113	20,797.35	29,400	38,007	13,003
4	Living land	44,878.14	3,590.15	4,000	2,110	6,987	6,593.99	6,400	11,865	3,332
5	Unused land	2,024,758.36	233,985.53	196,799	10,335	467,008	242,909.83	256,160	368,303	249,258

Unit: ha

Source - Statistic almanacs and reports from provinces in 1999-2000

<sup>10</sup> Data source: Eight provinces' statistics, 1999-2000; and the 2001 strategy for socio-economic development

**Table 19: Percentage of land-use in the Central Truong Son Landscape**

No	Type of land	Total	Quang Tri	T. T Hue	Da Nang	Quang Nam	Quang Ngai	Binh Dinh	Gia Lai	Kon Tum
1	Agricultural land (%)	14.30	14.52	11.7	10.28	10.62	19.29	19.4	17.90	8.44
2	Unused land (%)	35.07	49.30	38.93	8.27	44.87	47.30	42.51	23.76	29.64
3	Forestry land (%)	46.29	31.56	44.4	49.48	41.32	22.20	32.1	55.11	63.91

Unit: ha

*Source - Statistic almanacs and reports from provinces in 1999-2000*

The total forestry land area is 2,672,517.34 ha, covering 46% of the natural land area. This central region possesses the highest rate of forest cover and forestry area in the entire country. Some of the most forested areas are Kon Tum (63.91%), Gia Lai (55.11%), and Da Nang City (49.48%), followed by T.T. Hue (44.4%); Quang Ngai has the least forested area (22.0%). Forested areas are located mainly in the mountainous areas of the Truong Son, particularly to the west near the border with Lao P.D.R. and in the conservation areas around Ngoc Linh.

In recent years, due to government-funded forestry development programmes, such as Programme No. 317 and No. 661, the size of forested areas has increased. The increase of man-made forest area has noticeably added to the total area covered by forest.

Unused land (2,024,758.36 ha), which includes treeless hills, barren land and much coastal land, covers 35% of the natural land area. The coastal provinces possess a high proportion of unused land (making up 40 - 50% of the natural land area), while Da Nang city has the lowest rate at 8.27%. Thus, the opportunity to utilize such unused land exists. However, these areas are coastal, poor and salty. The treeless hills and mountains partly can be converted and used to cultivate fruit trees, industrial trees or for afforestation.

## 2.2.5 Infrastructure

### *Transportation*

The provinces in the Central Truong Son Landscape utilize various types of transportation modes such as roads, railways, air, and sea/river shipping. However, the traffic network's distribution is uneven. Upgraded areas are located mainly in the coastal plains, and in large urban centers such as Da Nang and Hue, in addition to a number of other towns and townships.

The north to south railway and the national highway No.1A run through six provinces (excluding Gia Lai and Kon Tum), representing the lifeline for the region's economy. Road No. 19 runs from Qui Nhon City, Binh Dinh Province through Plei Ku City, joining Doc Co border gate near the border with Ratanakiri Province in Cambodia. Road No.14 runs to the northeast, through Dak Lak, Gia Lai, Kom Tum and Quang Nam provinces, joining Da Nang City. This is the most important road system for the Central Highlands region. Road No.9 joins Cua Viet Port, Dong Ha Town with the Lao Bao border gate near Lao P.D.R..

Thua Thien Hue province contains national road No.49, which runs through Hue City to A Luoi district. Kon Tum province contains national roads No.24 and 40. These are the main national roads of good quality in the Central Provinces. The Ho Chi Minh highway, currently under construction, will cross the Truong Son range from Huong Hoa, Dak Rong and Quang Tri, through the mountainous areas of Quang Nam province to Ngoc Hai, Kon Tum, and will

join Plei Ku City. It will ensure a higher level of traffic security from north to south. The highway is designed to reduce the high density of traffic on national road No.1A, and to provide an alternative route during natural disasters such as floods, which occur frequently in the coastal areas. However, in the process of developing transport infrastructure and urban areas; of settling populations, and; of implementing new socio-economic and infrastructure development projects, forest areas often are negatively impacted.

The in-province/district system of roads has been developed to join the districts' urban centers. In recent years, the improvement of these roads has been a focus for development, resulting in better quality roads and ensuring smoother traffic flow throughout all seasons.

**Table 20: Provinces' roads in the Central Truong Son Landscape**

No	Province	Commune	Commune without motor-roads	National roads (km)	Provincial roads (km)	District roads (km)	Communal roads (km)	Density (km/km <sup>2</sup> )
1	Quang Tri	136	04					
2	T.T Hue	150	04	279	518.5	235.51.467.8	0.31	
3	Da Nang	47	0	67.5	83.8	29	185.2	0.29
4	Quang Nam	217	21	-	-	-	-	-
5	Quang Ngai	179	02	-	-	-	-	-
6	Binh Dinh	152	03	-	-	-	-	-
7	Gia Lai	170	04	300	350	-	-	0.216
8	Kon Tum	79	06	-	-	-	-	-
	<b>Total</b>	<b>1,130</b>	<b>44</b>	-	-	-	-	-

Source - Statistic almanacs and reports from provinces in 1999-2000

The inter-commune roads are nearly all without tarmac (except the communes along district and provincial roads), making transportation and travel difficult, especially during the rainy seasons. There are no roads that are suitable for vehicles that lead to the central communes in 44 out of 1,130 communes in the region. These include 21 communes in Quang Nam; six communes in Kon Tum, and four communes each in Quang Tri and T.T. Hue<sup>11</sup>. These communes are located in the high mountainous areas that are characterized by difficult terrain and an isolated, sparse population. Nevertheless, the communes' areas in the highlands can span very large areas, from 100 to 200 km<sup>2</sup>. For example, in Phong My commune (Phong Dien district, Quang Tri province), the area reaches a maximum area of 394 km<sup>2</sup>; in Dak Pring commune (Nam Giang district, Quang Nam province), the total area is 309 km<sup>2</sup>. Hence, it is extremely difficult to broaden the traffic network to join the inhabitants' residences. Many communes have roads leading to the center, however many villages remain isolated as they are located 20-30 km from the commune centers or the main roads, over hills and mountains covered by forest.

Traffic density in the region is low in comparison to others; for example, T.T Hue has a density of 0.31 km/km<sup>2</sup>, and Gia Lai of 0.216 km/km<sup>2</sup> <sup>12</sup>. Many large areas have not constructed inter-communal roads systems, namely western Quang Tri, Quang Nam and Kon Tum provinces.

The coastal area is heavily developed with extensive systems of wharfs. Of these, the most important ones are the deep water ports that enable transport and economic development.

<sup>11</sup> MTT's 2000 report on rural and mountainous areas transportation development

<sup>12</sup> T.T Hue and Gia Lai's strategic report on socio-economic development, 2001

Several large ports currently are being built, namely Dung Quat (Quang Ngai), Lien Chieu (Da Nang), Chan May (T.T. Hue) and Cue Viet (Quang Tri). Linked to the system of wharfs are the conjugated industrial zones, as well as the processing, transportation, service and commercial areas. Through the development of industrial zones, the coastal border gate helps to promote the rate of growth in the industry-construction and trading-service, reducing the dependence on the agro-forestry sector. This is also a very important mechanism for generating employment in rural areas, lessening the demand for land and forest use in many areas.

Aviation transport is also concentrated upon in the region; in addition to Da Nang International Airport - which provides the focal point for the movement of passengers and goods, both domestically and internationally - there are two more domestic airports in the region: Phu Bai (Hue) and Plei Ku (Gia Lai).

### ***Communications***

During recent years, and through considerable investment, the communications network of the provinces in the region has been widely developed. The Government has spent billions of VND setting up the Viba wave work, the radio/television receiving and broadcast stations in provinces, and the stations covering waves for the remote and mountainous areas. Consequently, the status and quality of telecommunication has been remarkably improved. Many provinces have telephone or wireless lines to their communes. The numbers of telephone subsidies has increased significantly. The rate of telephones per 100 people in the region is 2.32, of which Thua Thien Hue contributes 2.6 telephones/per 100 people, Da Nang reaches 6.37, Gia Lai averages 1.8 and Quang Nam has only 1.4<sup>13</sup>.

### ***Electricity and water supply construction works***

*Electricity:* The provinces of the CTSL make use of the national electricity network. The region has contributed to reducing the electricity shortfall to of its provinces through the construction of a 500 kv wire network and the operation of the two turbines at the Yaly Falls Hydropower Station (which has an optimal output capacity of 640 MW). Besides such large scale electricity production, there are several smaller hydropower stations such as Phu Ninh, Quang Nam province, Ia Dray, Gia Lai province and preventive diesel power stations. There are also numerous small-scale hydropower generators supplying electricity for households in remote or mountainous areas.

The CTSL is recognized as holding a huge capacity for hydropower, though the Sesan basin, and the network of rivers in provinces such as Quang Tri and Quang Nam.

Most district centers are connected to high, medium or low voltage stations through the transmission network. However, electricity is unevenly distributed, mainly concentrated in the urban areas and coastal plains. In the mountainous areas, with perilous/complicated terrain and a scattered population, construction of the electrical cable network is difficult, causing a serious lack of electricity to meet the demand for production and for the inhabitant's everyday use.

Kon Tum still has 25 communes whose centers do not have access to the electricity network (equivalent to 31.65%). The households with access to electricity account for 62% of the province as a whole. Similarly there are 43 communes whose centers do not have access to the electricity network in Quang Nam, making up 20%<sup>14</sup>.

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<sup>13</sup> PPC's reports, 2001

<sup>14</sup> CEMMA, 2001

The speed of connecting communes to the national electricity network seems high in recent years, but 10-30% of the communes left have very complicated terrain, resulting the remaining construction taking quite some time. In reality, the electricity network is built to join to the center of communes only, not to all the remote villages. Many households living in the network electricity support area are too poor to pay for monthly use of electricity. A lasting solution for the inhabitants is to develop small-scale hydropower generators as well as the other kinds of electricity such as energy from wind and sun in order to supply electricity in these remote areas.

**Table 21: Rural infrastructure condition**

No	Province	Communes	Percentage of communes to be wired electricity network (%)	Percentage of households to use electricity (%)	Telephone set/100 head	Percentage of household to use clean water(%)
Z	Total	1,130	83.16	-	2.32	-
1	Quang Tri	136	84.5	-	2.08	-
2	T. T Hue	150	93.3	77.0	2.60	43.0
3	Da Nang	47	100.0	95.6	6.37	92.83
4	Quang Nam	217	80.0	-	1.40	-
5	Quang Ngai	179	75.0	-	1.75	-
6	Binh Dinh	152	100.0	-	2.03	-
7	Gia Lai	170	73.0	54.0	1.80	65
8	Kon Tum	79	63.8	62.0	1.85	30.0

Source - Statistic almanacs and reports from provinces in 1999-2000

*Water supply:* The waterworks network is almost entirely restricted to the overpopulated cities to meet the demand for clean water. People in towns or near the edge of towns, where they have opportunity to construct, can dig a well to obtain water or make use of self-running water systems. Meanwhile, most of villages in the rural and mountainous areas still use natural water resources (streams, rivers, and headwaters) many of which are unsafe. The proportion of households using clean water is low, for example in Thua Thien Hue the rate is 43%, and in Kon Tum it is 30%.

## 2.2.6 Education <sup>15</sup>

In recent years, education in the region has improved. This is shown by more and more schools, classes and pupils. Most communes have schools and classes, with different subjects and materials. The quality of teaching and learning has also improved, for example some schools have applied to teach bilateral languages (Vietnamese and ethnic dialects) for the ethnic minority pupils.

In the eight provinces, the number of junior pupils has increased faster than the in higher grades. This trend can be viewed in two ways; one is that this reflects the appropriate population growth in recent years. The other view is that the investment into education has been very beneficial to the ethnic minorities in terms of attending school, but most only attend the first three years at primary level, fewer ethnic minority students continue into higher education. Kindergartens have not been built in the remote communes, which have a negative impact on primary education. This has knock-on effects on the quality of education and training the basic human resources necessary for socio-economic development.

<sup>15</sup> Data source: PPC's reports and statistics, 2001

**Table 22: Educational and training in the Central Truong Son Landscape**

No	Criterion	Unit	Total region	Quang Tri	T.T. Hue	Da Nang	Quang Nam	Quang Ngai	Binh Dinh	Gia Lai	Kon Tum
<b>I Education</b>											
1	No. of school (I+II+III degree)	School	2,380	264	328	145	443	365	377	318	140
2	No. of classes (I+II+III degree)	Class	52,444	4,252	6,568	3,818	9,973	8,154	9,194	7,305	3,180
3	No. of rooms (I+II+III degree)	Room		2,589	3,796		5,926	-	-	-	
4	No. of teachers (I+II+III degree)	Head	64,675	5,614	8,197	5,857	12,029	9,991	10,778	8,125	4,084
5	No. of pupils (I+II+III degree)	Head	1,860,436	146,635	254,227	150,736	338,481	296,907	347,700	236,068	89,682
6	Rate of Literacy	%	-	-	-	-	-	-	-	-	-
<b>II Training</b>											
1	University: College										
	No. of school	School	16	1	6	3	-	2	2	1	
	No. of teachers	Head	3,021	95	1,160	1,048	-	178	329	143	68
	No. of pupils	Head	74,551	563	21,116	34,761	-	1,993	13,660	2,145	313
2	Professional high school										
	No. of school	School	28	1	3	9	6	2	3	3	1
	No. of teachers	Head	793	9	99	283	184	52	65	78	23
	No. of pupils	Head	20,434	559	1,772	5,301	4,052	3,418	3,261	997	1,074
3	Technical, workers										
	No. of school	School		2	1	2	-	-	-	2	?
	No. of teachers	Head	420	43	33	84	-	-	198	52	10
	No. of pupils	Head	9,833	383	2,733	1,418	-	1,161	3,326	674	138

Source - Statistic almanacs and reports from provinces in 1999-2000

The numbers of university students, technical workers, and vocational training workers has also increased dramatically, to over 100,000 people. Da Nang and Hue have two of the nation's most famous training centers, annually supporting thousands of engineers, doctors and technical workers for the national economic industries.

More and more ethnic minority people are reaching university and higher levels of education due to the government's policy of educating students in the districts' and provinces' boarding school systems. The anti-illiteracy campaign has been implemented for a long time and on a large scale. Many ethnic minority people, particularly women, can now read and speak Vietnamese.

According to reports/documents, most localities have completed the objectives of the programme on anti-illiteracy and universalization. In reality, there are great numbers of people who cannot read and speak the national languages, particularly in the remote areas. This is partly because the above index is calculated for the people of school age (6 - 25 years olds), and also because of the quality of the anti-illiteracy campaign. Additionally, the ethnic minority people lack the opportunity to exchange and communicate with each other, or to access the outside world in order to maintain their limited vocabulary, causing it to be lost again.

## 2.2.7 Healthcare

During the period 1996-2000, the healthcare sector developed considerably through a series of programmes funded by the government and by some international organizations. The number of the healthcare stations, nurses and doctors has increased in recent years. This is recognized as providing the basic conditions needed to take better care of people's health. Networks of clinics are established in most communes (99.12% in total). At present, only 10 communes (8 in Quang Tri and 2 in Gia Lai) do not have clinics (0.88%). In the near future, the healthcare sector plans to construct clinics in all communes.

There are 4.5 nurses and doctors per 10,000 people, and 22.8 beds per 10,000 patients. The above index is similar to the national average index, although is uneven in distribution. The majority of materials, equipment, nurses and doctors are located in urban areas, in the plains and in developed zones. There is a lack of practitioners and of the necessary facilities for meeting the healthcare needs of people residing in the mountainous areas.

In many regions, the number of people that contract common diseases such as diarrhea, dysentery and infectious diseases (e.g. tuberculosis and lung disease) remains high. In particular, malaria regularly affects people in mountainous areas, where the living conditions are sub-standard and health services are not readily available. For example, in 2000, malaria spread through Tra My district (Quang Nam province), killing hundreds of people. In recent years, there has been the risk of infecting an even broader area with malaria <sup>16</sup>.

**Table 23: Health care status in the Central Truong Son Landscape**

No	Criterion	Unit	Total 8 provinces	Quang Tri	T.T Hue	Da Nang	Quang Nam	Quang Ngai	Binh Dinh	Gia Lai	Kon Tum
1	Rate of under five-year old to be malnourished	%								42.0	
2	Commune/ward to have clinic	%	99.12	94.11	100.00	100.00	100.00	100.00	100.00	98.82	100.00
3	Total beds	Bed	17,420	1,495	2,818	2,243	2,760	2,295	2,224	2,240	1,345
4	Beds/10,000 people	Bed	22.8	25.9	26.8	31.9	20.1	19.1	15.0	23.3	41.1
5	Doctor/10,000 people	Doctor	4.5	4.5	7.0	11.1	4.0	2.9	3.7	3.2	4.5

Source - Statistic almanacs and reports from provinces in 1999-2000

## 2.2.8 Migration <sup>17</sup>

Migration is an inevitable consequence of the socio-economic development process. This process has helped to reallocate the population and to regulate the labor force among different areas. In the CTSL, the immigration is in three forms and occurs at different degrees:

*Firstly*, there is in-region migration between localized areas. This is aimed at dispersing the population to areas with better soil conditions, and to reduce the population pressure on the plains or in poor regions. This type of migration is often related to local economic development projects that are managed and financially supported by the government.

<sup>16</sup> Provincial Health sector's reports, 2001

<sup>17</sup> Data source: National economic University and CEMMA's Census on Central highland's social ranking, 2000

*Secondly*, there is planned and free migration among regional provinces; specifically, from Quang Tri, Thua Thien Hue, Quang Ngai and Quang Nam to Gia Lai and Kon Tum. This targeted group of immigrants predominantly consists of poor people that immigrated at the end of the 1970s, 1980s and at the beginning of 1990s. They have since settled down in new places. However, due to the lack of available land, some have had to rely on exploiting forest resources (such as wood and logs, or wildlife for trade). This practice often occurs in the buffer zones of conservation areas such as Kon Ka Kinh and Song Thanh.

*Thirdly*, there is the external migration of groups who come from provinces to the north, such as Thai Binh, Nam Ha, Hai Hung, Nghe An and Thanh Hoa. Most of them are taking part in the free migration plan that is supported by the government, and is backed up with the provision of basic necessities in order to help the people to stabilize in their new settlements.

The groups of people coming from northern mountainous areas such as Cao Bang, Lang Son, Lao Cai, Son La, Tuyen Quang and Hoa Binh, mostly belong to the Tay, Nung, Dao, Mong, Thai and Muong ethnic groups. Due to hard living conditions in the northern areas, they have had to move to new places in order to make survive. These groups migrate freely, i.e. not according to the authorities' plans. As such, they receive less support for their resettlement.

They often migrate in groups consisting of households and according to family or village relations. This can help them to stabilize and subsequently to improve their lives in their new homes, where often they face many natural, social and economic challenges. Nonetheless, these immigrants are able to quickly stabilize their lives typically in only 3-4 years, depending on their knowledge of the local conditions and on the conditions of specific areas themselves. The new settlers are able to form good relations with the ethnic minority groups, some of which have been living in the area for generations.

However, some migrant groups either adapt poorly to their new environments or have a low potential for production due to their extreme poverty, namely the Mong and Dao ethnic groups. In recent years, the provinces have made plans and have expanded existing projects with a mandate to help them to stabilize their lives, as well as to develop production skills. As such, they will support free migrants and will contribute to improving their lives, step by step.

Another form of free migration that is excluded from the new economic programmes involves local government officers. Normally, they move among relatives or people with whom they have strong connections. They often settle in towns and townships that are suitable for production and goods exchange, as well as being convenient for transportation and with good infrastructure. Land is traded or transferred through past immigrants or local inhabitants. Over a period of time - the length of which depends on their adaptability and economic condition - their lives stabilize. Although the government does not support them financially, they are supported with regard to legal procedures, such as the migration procedure and employment generation, as well as through financial resources from their family and relatives.

Over the last 26 years (from 1976 to 2000), Gia Lai province received 55,972 households (242,129 migrants). Of these, 35,484 households (160,110 migrants) benefited from the new economic programme; free migration accounted for 20,488 households (82,019 people) coming from 26 provinces<sup>18</sup>.

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<sup>18</sup> Data source: Gia Lai DRNEZ's report on migration in 2000

**Table 24: Gia Lai's migration during 1975- 2000**

No	To province	Planned		Free	
		Household	People	House	People
1	Bac Can	-	-	365	1,472
2	Thai Nguyen	-	-	690	2,815
3	Lai Chau	-	-	419	1,694
4	Lang Son	-	-		
5	Cao Bang	x	1,305	735	2,875
6	Phu Tho	1,087	3,664	640	2,645
7	Vinh Phuc	764	2,751	618	2,502
8	Hoa Binh	1,022	3,934	621	2,486
9	Quang Ninh	69	424	350	1,235
10	Ha Tay		1,418	-	-
11	Hung Yen	3,478	13,344	1,240	5,002
12	Hai Duong	x	15,564	1,390	5,320
13	Ha Nam	2,184	10,600	1,430	5,420
14	Nam Dinh	x	15,470	1,450	5,505
15	Ninh Binh	x	7,752	525	2,315
16	Thanh Hoa	654	2,474	688	2,795
17	Nghe An	575	2,138	575	2,290
18	Ha Tinh	220	894	305	1,125
19	Quang Binh	364	1,296	530	2,263
20	Quang Tri	2,279	11,228	1,150	4,705
21	T.T Hue	1,340	7,210	1,205	4,896
22	Quang Nam	1,375	6,434	380	1,344
23	Quang Ngai	3,455	17,185	1,160	4,625
24	Binh Dinh	3,750	19,640	2,350	9,470
25	Thai Binh	x	x	450	1,810
26	Other province	-	-	552	2,796
	<b>Total</b>	<b>35,484</b>	<b>160,110</b>	<b>20,488</b>	<b>82,019</b>

Source - Statistic almanacs and reports from provinces in 1999-2000

X: unavailable data

Migration has brought about a significant increase in the number of people living in mountainous areas, especially in areas with fertile basalt-based soil or in primary forests. This also explains the natural population growth rate in the Central Highlands.

In general, the fundamental reason why most people move from rural areas to the CTSL stems from economic difficulties.

### 2.2.9 Poverty and starvation status

Most provinces in the CTSL are on the national poverty list, with the exception of Da Nang city. According to the new standards issued by the Ministry of Labor, Invalids and Social Affairs <sup>19</sup>, provinces with a high poverty rate include Quang Tri (24.58%), Quang Ngai (24.70%) and Kon Tum (29.20%). These figures are higher than the national poverty rate, but are equivalent to those of the provinces in the northern mountainous areas. Here, the poverty rates often are twice as high, ranging from 30% to 60%. For example, the rate is 60% in Kon Tum and Quang Ngai, and 38% in T.T. Hue, according to the former standard <sup>20</sup>.

<sup>19</sup> Under 150,000VND/people/month in city, town and under 80,000VND/people/month in other areas Decision No 1143/2000/QĐ-LDTBXH dated 1/11/2000

<sup>20</sup> Data source: Kon Tum, Thua Thien Hue's reports on poverty and starvation census and Quang Ngai, Quang Tri BEMMAS' 2000-2001 report

The poverty status of these provinces is affected by factors such as landscape and natural resources, e.g. land resources and forest resources, material service supply for production, and commodity exchange. This limits the production and development potential in the mountainous areas, and contributes to low levels of income and instability.

In recent years, owing to support and investment by the government into socio-economic infrastructure development, the case in rural and mountainous areas has changed remarkably. These social recourses have created the foundations for households to improve food production, to raise poultry and to become involved in trade, all of which improve their standard of living. The rate of poor households has been reduced in many areas in the provinces. However, these positive developments only affect people who have the opportunity to access such support and live in areas that are convenient, such as close to roads or on the edge of towns. Many other inhabitants, especially the ethnic minority peoples, remain in poverty and on the brink of starvation, regardless of the government's support and investment. Furthermore, this figure shows little or no change year to year.

**Table 25: Poverty and starvation in the CTSL's provinces**

No	Province	Population	Mountainous population	Rate poverty %	Poor household in mountainous area(%)
1	Quang Tri	573,331	114,346	24.58	41.50
2	T.T.Hue	1,048,791		15.40	38.00*
3	Da Nang	709,449	22,434	6.67	19.52
4	Quang Nam	1,367,058	-	-	-
5	Quang Ngai	1,197,124	174,437	24.70	60.00
6	Binh Binh	1,461,046	-	12.15	28.40
7	Gia Lai	958,251	-	16.00 *	-
8	Kon Tum	319,216	319.216	29.20	36.29

*Source - Statistic almanacs and reports from provinces in 1999-2000*

The poverty rate in Kon Tum province is 29.20%; if Kon Tum town is excluded, the rate is much higher (36.29%). Meanwhile, the poverty rate of the ethnic minority groups in the province is 47.51%. It can be even higher in districts such as Dac To and Kon Plong, where the local poverty rate is over 60%. Unusually, the poor and starved households of ethnic minority groups constitute up to 83.93% of poor households; in areas such as Dak Lei, the proportion can reach 100%. This means that the vast majority of poor and starved households belong to ethnic minority peoples.

The ethnic minority people not living in such conditions are local government staff, civil servants, teachers or people who have benefited from the social welfare policies.

This means that the target groups are supplementing their base incomes, or are maintaining a moderate standard of living based on their monthly salaries. However, a large number of people who earn a living through agriculture have neither enough food nor money to meet their family's minimum needs <sup>21</sup>.

<sup>21</sup> Kon Tum's census on poverty and starvation status

**Table 26: Poverty and starvation status in Kon Tum in 2000**

No	District	Poor and starved households		Poor and starved head		Rate (%)	Rate of poor ethnic people/ total people(%)	Rate of poor ethnic people total ethnic people(%)
		Total	Ethnic minority	Total	Ethnic minority			
	Total province	66,190	34,167	319,216	172,698	29.22	47.51	83.94
1	Kon Tum town	23,620	5,713	116,247	32,405	11.12	32.60	64.06
2	Sa Thay district	5,642	2,871	26,704	14,195	32.9	44.82	69.00
3	Ngoc Hoi district	5,217	4,175	23,834	19,271	36.44	42.22	92.00
4	Kon Plong district	6,623	5,266	31,607	25,797	47.81	57.48	95.57
5	Dak Glei district	6,074	5,689	29,967	27,785	41.71	44.47	99.84
6	Dak To district	8,991	6,109	43,681	30,606	47.85	60.66	86.05
7	Dak Ha district	10,023	4,344	47,176	22,639	29.46	51.54	75.82

Source - Statistic almanacs and reports from provinces in 1999-2000

This situation does not exist in Kon Tum province only, but in other ethnic minority areas in the region as well. The facts show that there is a need to adjust the present methodology in order to help the people to adapt to the changes in their environment, and hence to aid poverty reduction.

## 2.3 Development tendencies of some core provinces <sup>22</sup>

### 2.3.1 Concept and orientation of general development

Below are the four fundamental concepts that drive the orientation of socio-economic development in the provinces over both the short and long-term.

1. To attach great importance to the implementation of industrialization/modernization in agricultural development and in rural upgrading. Changing the agricultural and rural economy into one of large-scale production is both an immediate and long-term need.
2. To promote the economic transference mechanism, linking agricultural development with the processing industry and with professional work generation. Also cementing production with an available market in order to establish the combination between agriculture, industry, service and marketing.
3. To enhance the advantages of all areas, rapidly applying scientific and technological achievements to the development of agricultural commodities, thus meeting the increasingly higher demands for agricultural products and industrial materials.
4. To develop the agriculture sector in line with other economic sectors. The State's economy will play the leading role, in combination with the cooperative economy, to gradually build the foundation.

Based on the above guidelines, each province will specify its plan and development orientation according to the socio-economic conditions of the area. In the 2005-2010 plan, the development orientation of the provinces is as follows:

<sup>22</sup> Data source: PPC's 2000 reports and plans for socio-economic development during 2001-2005

### ***Thua Thien Hue province***

The province is moving its economy in a new direction by developing several sectors. This involves increasing the share of the industry, commerce, tourism and services sectors, and building the industrial port zone in Chan May. This also will create an economic association with the Central Industrial Zones' sectors.

Major development projects include the establishment of artificial timber manufacturing plants with capacities of 20-30,000m<sup>3</sup>/year, as well as the construction of the Dong Lam cement factory (production capacity of 1.4 million tons /year) and the Nam Dong cement factory (with the same production capacity).

Another focus is the improvement of transport networks in the form of road and railway systems, particularly national highways No. 1A and No. 49 that link to provincial road No.14 and Lao P.D.R..

Another important activity is the building of important irrigation facilities such as Ta Trach Lake, Thao Long Dam, Truoi Lake, as well as the construction of water reservoirs and Co Bi hydroelectric dam, which are currently undergoing preparation.

In the agriculture sector, priority lies with increasing agricultural productivity through intensive farming. This involves increasing the areas for growing short and long-term industrial plants such as sugar cane and pineapple to 12-15,000ha, and providing materials for the processing industry. A change in the techniques currently used in agriculture will also result in an increase in production of high quality goods.

Also planned is the enhancement of the afforestation programme from 4-5,000 ha/year on 150,000 ha of bare land and hills. This interlinks closely with the plans for protecting forests, enhancing the breeding pool and processing forest products. Additionally, the province plans to increase the forest coverage throughout the province, particularly in Bach Ma National Park.

Thua Thien Hue is in an extremely advantageous position to develop its tourism industry, given the recognition of the ancient capital city of Hue by UNESCO. Their current development strategy will give higher priority to the protection of forests and of natural resources in order to support ecological tourism.

Changing the economic structure by raising the value of products and the rate of livestock breeding in the agricultural sector will help to limit the rate of natural resource exploitation on a broader scale. However, finding suitable seeds for this ecological zone remains an unsolvable problem. This evidenced by the complete failure of recent attempts to develop crops such as coffee, sugar cane and pineapple in the mountainous areas of Thua Thien Hue province.

### ***Da Nang City***

Da Nang has the advantage of being the central region's center of development. Da Nang City has been built to be a focal point for transportation networks and for development in the Central Highlands, Southern Lao P.D.R. and northeast Thailand. The industrial sector is recognized as the key sector, and involves the building and development of ports, particularly in industrial zones such as Lien Chieu and Hoa Khanh. This is in addition to the synchronized development of the engineering, metal ware, garment, shoe, leather, chemical, food processing and building materials industries.

The maximum GDP growth rate is 13.5%/year. The density of the industry-construction and commercial- service sectors will noticeably increase in the coming years. In the agro-forestry and aquaculture industries, the value of seafood as well as the density is on the increase due to the strengthening of processing and export.

The development of horticulture brings about high-value fresh vegetables, fruits and potted plants to service the demands of the urban population and export. Cattle and poultry-raising is also being developed with an aim to improve their quality and value.

Afforestation and forest protection will increase the forest cover up to 65,000 ha, accounting for 52% of the natural land area. This will be implemented via the construction and protection of restricted-use forest, watershed protection forest and natural conservation areas such as Ba Na-Nui Chua, Son Tra, and South Hai Van. Wood processing plants have an output capacity of 40,000m<sup>3</sup>/year, using mainly planted trees or imported wood.

Da Nang's socio-economic development will reduce the pressure of illegal exploitation of natural resources in the mountainous and neighboring areas. However the rate of urbanization and the expansion of industrial zones will have the opposite impact on the ecology of the conservation areas located close to inhabited areas.

### ***Gia Lai province***

Agriculture will be the leading sector in the development strategy of Gia Lai province over the coming years. The rapid development of agro-forestry production shall be boosted by the development of farming in harmony with the processing industry to increase the value of goods. The target for the annual growth rate is an increase of 9%.

Apart from the main foodstuff - rice - highly commercial crops will be grown, such as coffee (81,000 ha, although not to be continuously grown), rubber trees (60,000 ha), cashews (12,000 ha) pepper and tea (4,000 ha), firewood (4,000 ha) and sugar cane (14,000 ha). Cattle raising is also prioritized.

Afforestation and forest protection is associated with wood processing. Gia Lai is a province that needs to develop such an industry in order to supply timber to the An Khe fibre plywood factory. An exploitation rate of 45,000m<sup>3</sup>/year from natural forests and 84,000m<sup>3</sup>/year from man-made forests is tentatively planned. This is an extremely large yield, with a high probability of having a large impact the natural forests of the province, particularly as the target yield may not be achieved by harvesting solely from man-made forests.

Industry focuses on agricultural product processing for export; however some units produce building materials with a view to meeting the demand for immediate use. Some significant industrial clusters have been built surrounding Plei Ku city and in the areas to the south. Modern construction works such as hydropower stations Nos. 2 and 3 in the Sesan River catchments are planned in order to supply electricity to the central region, supplemented with small-scale hydropower works to meet immediate demands.

With regard to transportation, national roads 9, 14, 25 and 14C, as well as provincial roads will be upgraded in conjunction with the construction of the Ho Chi Minh Highway.

Gia Lai will concentrate heavily on making use of the natural resources in the coming years in order to develop its economy, with a basis in improving capacity in terms of processing.

### ***Kon Tum province***

Kon Tum is a poor province, which plans to continue to concentrate on agricultural development in the coming decade. It is planned that the agro-forestry sector will continue to account for 40-41% of Kon Tum's economy by the 2005.

The province aims to develop areas specialising in key commercial crops such as coffee and rubber on the basis of intensive cultivation and maintenance of the present land area. These are focused in Kon Tum town, Dak To, Dak Ha and Ngoc Hai districts. The total area designated for cultivation is 40,000 ha. The aim of intensively cultivating wet rice is to increase the output and quality of the end product. The 12,000 ha of cassava is maintained to support animal-raising and the processing industry.

In the agro-forestry industry, land allocation is implemented to control and protect 250,000ha of forest. Around 70,000-75,000ha of new forest needs to be grown to supply the wood for the paper mill, which produces 130,000 tons/year. The area covered by forest represents 66% of the total. Kon Tum plans to annually exploit 30,000m<sup>3</sup> and to cease the exploitation of natural forest. As for the industrial sector, several production plants for building material, such as stone for construction, as well as cassava, coffee and rubber processing plants will be constructed.

In the transportation sector, there are plans to upgrade the provincial roads joining the district and townships; to construct the Ho Chi Minh Highway from Kon Tum to Da Nang City; to construct the national road No. 24 to Quang Ngai; and to join national road No. 40 to national road No.18B in Lao P.D.R..

Over the next 5 years, the province will receive 10,000 people under the new economic zones programme in order to meet the employment needs of the paper industry and of the development projects in Sa Thay, Ngoc Hai and Dak Lei districts.

Kon Tum, with its highland terrain, is considered as vital to protect the Yaly hydropower station, so maintenance and protection of conservation areas is prioritized. The impacts of the socio-economic development process will not be greatly felt in the areas that need to be protected.

## **PART III: SOME SOCIO-ECONOMIC AND CULTURAL FEATURES IN THE ETHNIC MINORITY AND MOUNTAINOUS AREAS**

### **3.1 Administrative geography and population**

#### **3.1.1 Administrative geography<sup>23</sup>**

The Central Truong Son Landscape comprises eight provinces in the center of Vietnam. These are divided into administrative units of 46 districts/towns/cities and 608 villages/wards. This natural conservation zone covers two cities (Hue and Da Nang), one town (Kon Tum) and 46 districts, including their buffer zones and surrounding areas. It has a total area of 38,354 km<sup>2</sup>, making up 66.6% of the area of the eight provinces and 11.63% of the country's total area. It houses a population of 3,344,615, which is around 600,000 households.

Of 608 communes, 234 are defined as especially poor, with a population of 467,559 in 93,062 households. These people are among the foci of the government's hunger elimination and poverty reduction programme (No. 133) and the socio-economic development of especially poor village's plan (No. 135).

#### **3.1.2 Population distribution**

The average density is 87 people/km<sup>2</sup>, which is 65% of the national average. However, there are large discrepancies in density between areas in the zone, and the highest density is often seen in areas such as cities/towns, lower lands, near rivers, flat areas and areas convenient for transportation. The majority of the population lives in the eastern and northeastern parts of the zone, mainly in the two big cities of Da Nang and Hue, and their surrounding areas.

The density of the population in delta districts is approximately 200 people/km<sup>2</sup>, compared to 80-100 people/km<sup>2</sup> in more mountainous areas. In the most mountainous areas, the population is even sparser with an average density of 10-20 people/km<sup>2</sup>; for example Dak Rong in Quang Tri (27 people/km<sup>2</sup>) and A Luoi in Thua Thien Hue (29 people/km<sup>2</sup>). The most sparsely populated districts are Nam Giang in Quang Nam and Sa Thay in Kon Tum with densities of 10 and 10.9 people/km<sup>2</sup> respectively. Dak Pring village has a density of only 3 people/km<sup>2</sup> <sup>24</sup>.

#### **3.1.3 Population growth rate <sup>25</sup>**

From 1985-1996, the population increased at a high rate - about 3% annually. In recent years, due to good medical care and the family planning programme, the rate has been reduced to 2.0-2.5%. Some mountainous districts experience a stable rate due to both a high birth rate and a high death rate.

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<sup>23</sup> Data source: Eight provinces' statistics and socio-economic development report, CEMMA

<sup>24</sup> Project on conservation of Thanh river

<sup>25</sup> BEMMA's report, 2001

## **3.2 Traditional society features**

### **3.2.1 Family size and distribution of labor force**

A typical ethnic minority family has six to eight members, which is higher than that of the region as a whole. In the more extreme cases, families have been found to contain 12 to 14 members. These families comprise two to three generations living together.

Due to the relatively new tendency of detaching from families at a young age, families are decreasing in size<sup>26</sup>. Female-dominated families exist in the Ba Na ethnic minority group. In such cases, women play a very important role regardless of the family's size. In contrast, men dominate the family in other minority groups. Nonetheless, labor distribution in accordance with age and sex (natural labor distribution) is common. Men are always responsible for finding and exploiting land, felling trees for wood and hunting. Meanwhile, women are responsible for fetching water and firewood, cooking, caring for the children and farming. Women are under more working pressure than men as they have many other household chores<sup>27</sup>.

Working according to the crop cycle is typical in the product manufacturing process practiced here. The farming season runs from January to April, beginning with locating land, slash and burn clearing, sowing the seeds and finally crop harvesting. However, due to regional differences in climate and natural conditions, the process may be displaced for up to one month. This depends largely on the timing of the rainy season. Hunting is now carried out in all seasons, usually during the men's free time. This is often after lunar October - the time for worshipping and festivals - and when their storehouses are full of food<sup>28</sup>.

### **3.2.2 Social structure**<sup>29</sup>

In the Truong Son and Central Highlands, residential communities live in groups, and the village is considered to be the basic social unit as well as the traditional social organization.

By this, we mean that it holds great importance in the communities. The above-mentioned social organization continues to co-exist with the administrative one in accordance with the regulations issued by the state of Vietnam. In addition to the voted or appointed heads of hamlets and the leaders of socio-political organizations (such as the youth or women's organizations), there are some patriarchs who are highly respected and are in responsible positions. In these cases, the roles of the village leaders, patriarchs and magicians rank first. They provide advice, make important decisions in village affairs, arbitrate and mediate personal relationships, and make ceremonial offerings.

In many places, people act in accordance with both systems: the national laws and the rules set by the village. Generally, the village rules are applied firstly and quickly, by default. Conflicts occur when some articles in the village rules conflict or overlap with national laws.

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<sup>26</sup> The author's 2000 working report

<sup>27</sup> PRA report in Gia Lai, 1997 HPP and the field trip survey in Lo Pang commune, Mang Yang district in 7/2001

<sup>28</sup> Field writing and census in Quang Tri's mountainous areas, 2000

<sup>29</sup> Gia Lai PRA report, HPP, 1997

Because of the low level of education, people are not very aware of the laws; this is the main reason that they easily break the law. This is particularly common with respect to the management and use of land, water resources, animal hunting and forest exploitation. There are many cases of forest laws being breached; this is due to the local people's belief that they hold natural possession of the forest, and as such they are allowed to hunt, log et cetera.

Another driver is economic - they may be employed by illegal wood exploiters and wildlife suppliers based in cities and towns.

### **3.2.3 Social/community relationship**

In some localities, the social relationship is defined where only one ethnic minority group lives or where many groups of minorities live in the same area. The social relationships of the larger and more developed minority groups will usually affect those of the smaller ones. In the Central Truong Son, there are several small minority groups with low populations. Although they may be good-natured, they are afraid of encountering and forming relationships with other minorities in particular.

Each village has its own territory, which is generally defined by natural boundaries such as a river, a spring or a common wood. These natural or man-made boundaries are approved and obeyed.

Community possession is also applied to lands, fields, mountains and forest, rivers and springs. An individual has the right to exploit, use, inherit, offer and even to transfer the community possessions, although not to individuals from different communities. For fallow land, the owner loses his usage right beyond the date stipulated by the community.

Community and democratic traditions are basic and typical features of Truong Son and Central Highland communities. They are the strength and guarantee for the existence of each minority group, through internal and external solutions as well as via their relationship with the natural environment.

The process of developing the social economy in recent years has resulted in many influences and dramatic changes to community relations. Firstly, population booms both in number and proportion of ethnic minorities. The ethnic minorities from the north or the Kinh people have taken with them their lifestyle, manners, and custom, creating a mix of the cultural features.

Secondly, changes in the social economy, as well as in the living conditions of each community and family unit, have also caused changes in the mentality of the native residents, such that they reorient themselves according to the direction of development.

However, the process of integrating external cultural elements remains very slow. Some deal well with their new lives, and hence can integrate and self improve. Meanwhile, others persist with their accustomed way of living and tend to separate from the outside world. This is part of the reason why the poverty rate is far higher in the ethnic minorities' communities, and is only decreasing very slowly.

### **3.3 Shifting cultivation**

As they use traditional methods of cultivation, many minority groups are classified as practicing shifting cultivation. As such, they often are considered to be those who injure the forest and as difficult to impose demographic control upon (in other words, they are very poor). In order to stabilize, develop and improve people's standard of living, the government has carried out a resettlement programme aimed at the above minority groups since 1975. After nearly 30 years, a great number of minority people have stabilized and improved their lives. Nevertheless, the old methods continue to be practiced. They can be divided into several types:

1. Stable resettlement (the Kinh people). These groups normally settle in the advantageous areas, such as in lowland areas that are convenient for wet rice cultivation.
2. Resettlement but maintaining the shifting cultivation - i.e. continuing to practice traditional cultivation methods that require large areas of land. This group lives in mountainous areas where the conditions for agricultural production are disadvantageous, and where there is little area for wet rice cultivation. As a result, they slash and burn the land to produce their main crops. Their living conditions are poor, and there is a high rate of starvation.
3. Complete shifting cultivation. They live in remote, disconnected areas. They earn a living through natural resource exploitation. They do not have the opportunity to gain access to social services. Poverty, starvation and disease occur at high rates.

### **3.4 Medical care and personal healthcare<sup>30</sup>**

Every commune has a healthcare service center. However, it is often located far from the villages, e.g. tens of kilometers on very bad roads. This causes difficulties in accessing healthcare services. The healthcare practitioners working at the district and commune levels are trained in primary qualifications, and there are very few physicians or doctors available. There are almost no health practitioners originating from the ethnic minorities. Very few people's health is cared for and it is very poor quality care. The lack of equipment is a severe limit to the service center's capacity.

According to the government's policies, people are provided some medication, normally influenza balm and malaria pills, on an annual basis and at a very low cost, or even free. Other good quality medications are sold at cost price. However, not all people use this service. Many continue to use their traditional methods and remedies, or to make ceremonial offerings in the hopes of improving their health.

Diseases are a serious problem in the region. The common diseases, which are the major causes of death in this region, are tuberculosis, lung disease, malaria, pneumonia, diarrhea and intestinal diseases that afflict women and children often. In the mountainous areas of Quang Tri province, the proportion of malnourished children fluctuates from 60% to 70%; the proportion of female diseases and of goiters is 29 %. These are high figures in comparison with those for the nation as a whole.

Diseases result from the lack of good and sanitary conditions in daily life, and the fact that people's living customs have yet to improve<sup>31</sup>. Rapid population growth continues on in

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<sup>30</sup> Data source: BEMMA's report 2000-2001

<sup>31</sup> Quang Tri BEMMA's report, 2000

mountainous areas. This is partly due to a high birthrate and partly to the fact that the family planning programme was not carried out in this area before 1995. Due to the popularization and development of family planning services over the past five or six years, the birthrate in the region has gone down. Some families have become used to the newly-introduced methods of birth control, including vasectomy. However, such changes must be made at the right time and effective strategies to increase people's awareness must be used.

A remarkably successful healthcare service in the mountainous areas is the immunization programme, which reaches 90% to 95% of children at the injection age. Many other successful attempts to improve the healthcare service for people have been made.

### **3.5 Education in mountainous areas**

Almost every commune has a school and runs classes. Those located by the side of main roads are more comfortable and better equipped. In remote regions, the situation is still poor. Another point of concern is the teachers, especially ethnic minority teachers. The competence of the teaching staff is low with only 15% of teachers that have been standardized. The number of students attending classes is high at the beginning of the school year; however, 6-7% quit or attend few classes by the end of the course.

In the high mountainous areas, the proportion of students that attend classes reaches only 75% (or even only 50% in some communes). There are many factors that contribute to this situation, chiefly poverty, the large number of children and a customary lack of concern for children's education. Low attendance is also caused by geographical obstacles in many areas, a lack of teachers in general, plus a lack of classes and teachers for minority pupils. A remarkable point is that the proportion of minority people that do not know Kinh in the remote regions is as high as 50 to 60%. This causes difficulties in educating and popularising education - which is part of the ongoing poverty reduction and illiteracy elimination processes in the region.

### **3.6 Economic features**

The most typical feature is a dramatic gap between rich and poor people. Because they are mainly at a low level of economic development, earning a living depends on hunting and they are reliant on each other to survive. Farm production, livestock raising, hunting, collecting and exploiting the forest, as well as traditional vocations and rice growing, are the main production activities carried out by the minority people of the Truong Son region and the Central Highlands. Some regions make use of the advantages of technical infrastructure, traffic integrated into the market, changing mechanisms and forms of manufacturing.

Means of accommodation, eating, living and traveling are very simple, as people mainly remain on their land. In the past few years, the living standard of people in more developed regions has changed in accordance with their new environments.

#### **3.6.1 Agricultural production**

Agriculture plays a key role in the economic structures, making up 80-90% of the total GDP in the districts<sup>33</sup>. Farming possesses the greatest share (animal raising accounts for 5-10% of the sectoral structure). The annual growth rate is 3-3.5%.

Income per head in the region is lower than that of the country as a whole. In Huong Ho, district (Quang Tri province), there is 180 kg of food per head available, and in Dak Rong there is 190 kg per head - equivalent to 73.7% and 77.8% respectively in comparison with the provincial average income per capita.

Food production in the mountainous areas is characterized by a high but unstable density, low yield and poor harvest (often caused by natural calamities). However, there is decent potential for food production where virgin soil is continuously reclaimed. New seeds, crop structure and technical tools are being used to increase productivity and yield, meeting the communities' self-service demand for food. Subsistence food crops can be replaced in some areas by short or long-term commercial crops with higher economic values, resulting in greater income generation.

### ***Milpa cultivation***

Milpa cultivation is considered as an important element of agricultural production activities.

There are two types:

- Alternative cultivation in a closed cycle, which is normally practiced by Ba Na and Xo Dang ethnic groups. Each household separates land into two areas: land in use and recovering land. This cycle enables the soil to recover after 10 years of use, when the soil will be enriched again and the former level of productivity will be reached. However this type of agriculture is only appropriate in areas with low population densities, plentiful forests and a relatively undisturbed, stable natural environment.
- Most of the other ethnic groups practice open cycle alternating cultivation. With the rapid population growth, people have to rotate their land more and more to produce enough food. The soil becomes poorer and forests cannot regenerate quickly enough. The people then move to other places with better conditions, such as areas with more land and forests to exploit, resulting in an overall reduction in forest area. This explains why some groups tend to move to remote and secluded areas far from population centers.

Milpa cultivation tends to require significant natural resource exploitation, and the utilization of natural recovery. The environment is damaged when the biological cycle is unstable. The process of biological degradation in a region leads to the destruction of machinery, the narrowing of forest areas and hence the disappearance of fauna and flora, particularly valuable and rare species. The life of highland peoples is blighted by several pressure factors, such as population, land and the labor force. For stability, they need to establish a balance between these factors. At present, the land suitable for cultivation is decreasing, with the cycle of alternative cultivation limited to 3-4 years in many localities.

### **3.6.2 Husbandry**

Animal raising plays a noticeable role in people's lives; not only is it relevant to income generation, foodstuff and nutrition, but also to worship, spray ceremonies and annual festivals, or when a family member falls ill. Animals are free to wander and feed themselves. Cattle (buffalo and cows) are popular as it is easy for them to find food, and moreover they are in the habit and customs. In addition, animals such as pigs, chickens, and ducks are also commonly raised.

### 3.6.3 Other income sources

- Exploitation of forest products and animal hunting are the main sources of income in people's everyday lives. In addition, animal hunting is done to protect their crops and because it is considered as the martial spirit and tradition of some ethnic groups as well.
- The ethnic groups here continue to practice many of traditional handicrafts, particularly weaving (Ta Oi and Ba Na ethnic people), forging (Xo Dang people) and knitting (in all communities). But due to a poorly developed economy, these professions are being lost over time.

**Table 27: Economic structure and production form of the ethnic minorities** <sup>34</sup>

Production form	Tree/plants/animal/professions	Assessment of action and tendency
Wet field	Wet rice	Area expanded, productivity and yield increased
Milpa	Hill rice, maize, casava, sweet potato, multi-kind beans, jack fruit, papaya, banana, pineapple, tea, coffe, mulberry and cinamon	The area gradually narrowed, low productivity and quality, unavailable markets
Hasbandry	Chicken, pig, buffalo, cow, goat	Intensive cultivation, low quality and yield poorly developed
Handicraft	Knitting, weaving and forging	Lost to oblivion self-serving production
Forestry	Afforestation and protection	not stable or developed yet
	logging	limited and forbidden
	non-timber forest product	resources exhausted
In-forest animal hunting	birds, mammals, reptiles etc	scarce and strictly forbidden

Income generation activities are varied, depending on the ethnic group and on a specific area. But most activities are simple, decentralized, self-serving and without bearing the hallmark of true goods production.

Goods exchange is conducted using the barter system, and the equivalent price system is governed by definite unwritten law. The people tend to spend more than they earn, particularly on festivals and on worship. All of this contributes to starvation each year.

### 3.7 Socio-economic development programmes/projects in the region

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In the common strategy for developing the regional socio-economic situation, including the implementation of an "equal development" policy among the ethnic minority groups, the government has had many policies and provided much support to bolster development through a number of programmes and projects. Most project activities in the region are included in the nationally targeted programmes and projects have been carried out pursuant to common principles and management mechanisms including:

**a. Settled agriculture and resettlement project:** The group is the ethnic minority people. The Department of Settled Agriculture, Resettlement and New Economic Zones is to be the controlling agency, along with the Ministry of Agriculture and Rural Development.

The project objectives are to stabilize people's lives, as well as manufacturing and forest protection around shifting cultivation zones. Activities include reclaiming virgin soil, practising intensive farming, installing small irrigation schemes, growing commercial trees,

afforestation, building infrastructure such as roads, health centres, kindergardens, plus moving and stabilizing villages.

**b. The projects under Programme 327 (completed):** The ethnic minority people was the target group of this project. The Ministry of Agriculture and Rural Development was the controlling agency.

The objectives of the Programme 327 was to grow trees on barren hills, to protect forests and the ecological environment, to make full use of the soil's potential in the mountainous areas, to attract the labour force and to create jobs. Project activities included fenced growing, preserving existing forests, afforesting new ones, developing rural areas and agriculture, and building infrastructure.

**c. The project on relocating people and developing new economic zones:** The project is to have an indirect impact on the ethnic minority people. The Department of Settled Agriculture, Resettlement and New Economic Zones is to be the controlling agency, along with the Ministry of Agriculture and Rural Development.

The aim of this project is to adjust population density, develop the economy, and stabilize the society. The project has invested in setting up new economic zones with commercial crops and forest trees to be grown and farmed in the economic zones and industrial zones of the Central Highlands.

**d. The project of afforesting 5 million ha (Programme 661) from 1998 to 2010:** The main target groups are the people from mountainous areas and ethnic minority groups. The Department of Forestry Development with the Ministry of Agricultural and Rural Development are the controlling agencies.

The aims of the project are restoring the balance of the ecology, ensuring stable development of the environment, setting up concentrated material zones and creating jobs to make an important contribution to the socio-economic development of the society and to help the mountainous inhabitants to settle their lives.

**e. National programme on hunger and poverty reduction (coded: No 133).** With MOLISA as the controlling agency.

This project mainly gives priority to communes in extreme difficulty in remote areas. According to Decision No. 133, the content and main activities of this project are:

- Investing in improving the infrastructure (excluding fresh water in rural areas), relocating the population, helping production and the development of careers, issuing credits to the poor, offering support to education and healthcare, promoting agriculture, fishing and forestry, improving and training the team that is in charge of HAPRP and originates from poor communes, implementing settled agriculture and resettlement; moving people to new economic zones, plus aiding the particularly poor and needy households.

**f. The programme on socio-economic development for communes in extreme difficulty in mountainous and remote areas (coded No. 135).** CEMMA is the controlling agency.

The specific targets of the programme are:

- By 2000, there will be no chronically poor households. There will be a reduction of 4-5% per year, initially through providing people with clean water, eliminating several serious infectious diseases, and building roads to the centre of communes.
- By 2005, the number of communes ranked as 'especially hard' will be reduced to 25%. By 2000, sufficient clean water will be supplied to people, over 70% of children will go to school, most people will receive training and will share their experiences in production. In addition, most people will be able to incorporate cultural, social and scientific knowledge into their lives and the production process.

This programme is being carried out in 234 communes with difficulties within 7 provinces. The initial years focused on the construction of rural infrastructure.

In addition, there are several other development investment and support programmes such as:

***g. The programme of building up commune centers*** This programme focuses on building infrastructure in commune centers. CEMMA is the controlling agency.

This programme focuses on building six types of infrastructure: electric power stations, traffic routes, schools, medical aid stations, markets, agricultural development stations. These will be done at strategic development points of some communes in order to push socio-economic development. This programme has now been combined with Programme 135 of developing the socio-economic situation in communes in extreme difficulty.

***h. Programmes on subsidizing product prices, costs and consumption*** CEMMA is the executing agency.

This programme helps to provide raw materials and services, and to influence the circulation and consumption of products by people. The target groups of this programme are those living in region III, difficult communes.

***i. Programme on aiding ethnic groups in extreme difficulty*** (under Programme 133) CEMMA is the executing agency.

The target groups of the programme are households of ethnic peoples in extreme difficulty, in region III plus some in region II. Activities include giving famine relief in the period between crops, supplying means of living and issuing credits to enhance the production process. However, this programme has now been changed into a policy supporting ethnic people in extreme difficulty.

### **3.8 Emerging problems in socio-economic development**

Several problems have emerged from the process of implementing socio-economic development in the Central Truong Son Landscape.

Development has brought about remarkable achievements in this region. However, the ethnic and disadvantaged people have not adequately benefited from development activities, especially those living in the mountainous and remote areas as well as in very isolated high mountain areas. Overall, the main problems faced by these people are:

### **3.8.1 Poverty**

This issue is rather difficult to solve. For instance, the percentage of poor households in the mountainous areas of Thua Thien Hue and Quang Tri account for 42- 45%; among ethnic people, this figure is 50- 60%. This figure rises even higher if calculated according to the new criteria introduced by MOLISA. Most ethnic people are living below the poverty line and are extremely short of food. The problem is more serious for the people living in small groups in the remote areas due to their disadvantageous living conditions, insufficient production facilities and the inability to access social services.

### **3.8.2 Environmental degradation and forest losses**

Due to various reasons such as slash and burn cultivation, war and illegal exploitation, the environment in some regions has been seriously degraded. This in turns causes floods, landslides, soil erosion, water shortages and infertile soil. Land area used for cultivation has increased in many areas of the Central Highlands. Annually, about 122,820 ha of forest area are lost, mostly in mountainous areas. Therefore, there must be a considerable amount of deforested land in this area, partly because of the ethnic people's cultivation, partly because of illegal logging and forest destruction to increase the land area for growing coffee, pepper and fruit trees.

### **3.8.3 High population growth rate**

The population growth rate has put a great deal of pressure on the environment and the land, especially the forests. As well as the high natural growth rate among ethnic minority groups such as the Ba Na (3.9%) and Gie Trieng (3.9%)<sup>36</sup>, the effect caused by the mechanical growth rate should not be ignored.

Mechanical population growth leaves the greatest impact on the living environment of the Truong Son and Central Highlands. This growth can be attributed to the Kinh people from the coastal delta, and to people from the north as a result of both part of planned and free migration. This situation is apparent in the Central Highland provinces including Gia Lai and Kon Tum. In 1945, Kinh people accounted for 5% of the population; this figure increased to 50% by 1975 and at present, amounts to between 50-87%, depending on the province. During the past 25 years, the population of the Central Highlands has increased dramatically (around 3 to 4 times) due to migration from the north of the ethnic minorities - i.e. 700,000 from free migration<sup>37</sup>.

The Truong Son region and Central Highlands have become the "promised land" for thousands of people. Those who are well enough off purchase land for growing commercial crops. The poor households (both from the north and south) move here to make living. This has led to the use of the slash and burn method, land trading and forest destruction. It is not only the newcomers, but the inhabitants that have lived here for many generations, that are being pushed into this cycle.

### **3.8.4 Infrastructure**

Due to the isolated terrain and poor infrastructure capacity, roads for transportation have not been built in many communes, let alone at the village level. This is partly due to the fact that an administrative unit in the mountainous areas is often much bigger than that in the coastal

plain areas. The national electricity network has reached the provinces, districts and some communal centers; however, up to 70% ~ 75% of the population do not have access to it.

### **3.8.5 Low schooling level and high illiteracy**

The percentage of illiterate working people in communes in region III is 60- 70%. The rate of literacy in the Ba Na and Gia Rai ethnic groups is 20% (1989). If gender is taken into consideration, the figure of illiterate women is 12%. The illiteracy rate among breadwinners and people in the labor force is rather high<sup>38</sup>.

### **3.8.6 The differences in culture and language/dialect**

As they live in isolation, the Central Truong Son ethnic minority people have retained their own cultural identity and traditions. Integrating and accepting modern development (as in lowland culture/the majority people's culture) is difficult for them due to the barriers created by different languages, lifestyle, customs, and cultivation methods.

### **3.8.7 The differentiation between the rich and the poor**

The achievements in the region also have had a negative aspect. Although some people have increased their wealth (mainly the ethnic majority people), and some ethnic minority people have been able to stabilize their lives, many others have had to face an even more difficult life because of the environmental changes/degradation caused by urbanization and expansion of areas for growing crops such as coffee and rubber trees.

### **3.8.8 Insufficient management**

Various issues relating to inefficient management of development in the ethnic minority and mountainous areas (as well as in the region as a whole) have arisen.

Some programmes/projects have been implemented without concrete research into the socio-ecological conditions. Another common problem is that local participation in the planning and implementation of socio-economic programmes is limited. There are very implicit issues resulting from poverty status and economic weakness. These normally fall to the ethnic minority groups who are less educated, illiterate, and familiar with the natural life. To earn a living, they themselves find and use a solution, which they have always used to survive.

## **PART IV: ORGANIZATIONS INVOLVED IN CONSERVATION**

To ensure a successful conservation campaign, that maintains the natural biodiversity, the conservation areas of the CTSL must be directly or indirectly related to the mass organizations and different target groups that impact - positively or negatively - on the regional conservation strategy. This not only covers protection and maintenance of protected areas, but also the consideration of a natural resource utilization plan and the socio-economic development of the influenced areas. The following target groups can be identified:

Local residents, natural resources users, provincial or district level government agencies, international organizations, and donors.

### **4.1 Local level resident groups**

Community level residents have a direct influence on protected/conservation areas through land and available water use, and the exploitation of forest that has potential to guarantee a secure livelihood. This group plays an important and decisive role, and their input is vital to ensure the success of planning and managing the preserved areas. Conservation work must address concerns about the demands and profit of the local residents, which is institutionalized in concrete regulations, principles, and policies.

The majority of local residents belong to ethnic minority groups. These people, who are the traditional owners of the land and who hold distinct cultures, should be thought about when considering interventions and likely impacts. This is particularly important in relation to issues such as land-use rights, division of profits from conservation activities, construction of irrigation works, hydropower station construction, changes of habits and customs, unwritten laws and the role of the community's core members.

Local community groups include local socio-political organizations (e.g. Communal people's committee, village head, Women Union, Youth Union, Fatherland Front) that are behind the communities' people of prestige, namely village patriarchs and well-educated persons. Developing the communes' socio-economic situation, reducing hunger, alleviating poverty and improving people's lives are fundamental to ensuring that strategic conservation is successful. These reduce communities' dependence, impact and intervention on forest resources.

### **4.2 Watershed-based natural resource users**

This group has both direct and indirect impact/influence on the conservation areas. If their livelihoods are not guaranteed, these people will trespass on the conservation areas to exploit natural resources such as plants, trees, and rare animals either directly or indirectly (by collaborating with the local people). This is clearly seen in conservation areas such as Kon Ka Kinh and Phong Dien.

The poor management of headwater forests has also resulted in local climate changes, reduction of household and agricultural water quality, as well as unexpected droughts and floods. Hence, the water source also plays an important role in the economic lives of people in urban and coastal areas.

### **4.3 Local administrative system** <sup>39</sup>

The local administrative system is directly in charge of conservation duties through implementation and state management. This system is set up in conformity to the common structure of most provinces. The provincial peoples' committee ranks as the first level, playing a decisive role in designing strategies and socio-economic development plans, including the management and construction of conservation zones that are related to and dominate the local community, as well as other participating international organizations. These units function as consultant and assistant offices for the provincial people's committee, and are established from province to district, some even to communes.

The PPC, more precisely the president of the PPC, makes the final decision in all plans, programmes and projects; and is invested in a position of authority that is decentralized from the central level. The functions, duties, rights, obligations and managed sectors of some core agencies at the provincial level are involved in economic development and natural resource management as follows:

- a. DPI is the consulting unit for making plans, as well as for linking and distributing the budgets invested in the province. DPI possesses much power in governing the other management agencies' activities.
- b. DARD is the agency responsible for agro-forestry activities in localities. These include the implementation of state management work concerning the sector, and direct expansion of specific activities such as projection, design, agro-forestry promotion, veterinary services and watershed management.
- c. DOLISA is in charge of hunger alleviation and poverty reduction, according to the national targets Programme No. 133.
- d. BEMMA or DRNEZ is in charge of supervising and supporting local communities, especially the ethnic minorities. This agency is responsible for managing and directing the implementation of the programmes carried out in areas with difficulties, namely programmes such as No. 135 on resettlement, and support the ethnic communities in extreme difficulty.
- e. SFPD and DFD are both state management agencies with regard to forest protection and implement some programmes/projects on afforestation development such as the 5 million ha Programme.

The SFPDs in Thua Thien Hue and Gia Lai are recognized as the provincial focal point departments under the PPC, while in Kon Tum, Quang Tri and Da Nang they are under DARD.

- f. The Electricity Company and the DoTT are in charge of building and upgrading the infrastructure (e.g. electricity and roads)
- g. The Department of Land (DoL) is the state management agency responsible for land, land projection and use, among other things.

It is essential to ascertain targets for stable development in the long-term strategy, have united and combined plans, and carry out development programmes in these areas to avoid contradictions between conservation duties and development, as well as for a better combination of human forces.

#### **4.4 Local socio-political organizations**

There are also other socio-politic organizations in the State administrative system such as the Fatherland Front, Women's Association, Farmer's association, Veteran's association and Youth Union, which cast a wide net from provinces to districts and communes. These organizations play a role in encouraging, speeding up and supporting activities in peoples' communities. In addition, they also direct and participate in some socio-economic development programmes to create motivation for social development, for example helping with income generation, alleviating hunger, reducing poverty and protecting the environment.

#### **4.5 Other related organizations**

With its typically diverse biological features, the Central Truong Son Landscape has attracted the attention of many international environmental organizations. At present, a great number of activities have been implemented here by BirdLife, FIPI, WWF and JICA. Some other large international organizations, such as the World Bank and the ADB, have important programmes on socio-economic development, hunger alleviation and poverty reduction in the eight provinces. In addition, other international NGO's currently are implementing projects, for example OHK and ICCO in Quang Tri and Thua Thien Hue.

## **PART V: SUMMARY AND RECOMMENDATIONS ON SOME ISSUES RELATING TO NATURAL RESOURCE MANAGEMENT AND CONSERVATION**

The Central Truong Son Landscape's natural resource management and conservation also play an important role in national and regional development. This is not only significant to biodiversity and environmental protection, but also to the conservation of ethnic minorities' identity and cultural values in the region.

In the above-mentioned issues, it is obvious that environmental protection and natural resource conservation involve not only in the ethnic minority people, but also the majority people (either directly or indirectly depending on the concrete circumstance and different conditions).

- The slash and burn cultivation system carried out by the ethnic minority people is not the key reason leading to environmental degradation presently; greater impacts come from other causes.
- The Truong Son region and Central Highlands cover a considerable area that could be exploited in the future for the purposes of survival and co-existence, especially in arranging or reconciling residents among areas.
- The development of the CTSL should be motivated on the basis of concrete studies, detailed projection, and content corresponding to human and ecological features in each area and in every ethnic group, thus avoiding unplanned and unbalanced development. This is necessary for both the settled and protected areas.
- Through the tendency of expanding the area for agricultural cultivation, ecological conservation, and watershed protection, the resources available for the ethnic groups will be gradually narrowed. The pressure for survival forces them to adapt to the new environment and often breaks the barriers stipulated by outsiders. Conservation will only be truly successful after economic stability has been created for the influenced groups.
- Thus, people need support from all sides to enhance food production and other materials by creating or introducing techniques, plus sensible and effective management to help them to familiarize themselves with the changes of lifestyle, cultivation methods, and even habits to incorporate an unfamiliar lifestyle. People have enough food to serve themselves, income to pay for services such as healthcare, education and culture, and favor life near forest, as they can make a profit from the forest without it being encroaching upon it.
- To promote the role of local communities in natural resource management and enhance participation via the establishment of land-use rights regulations, both in written and traditional forms. They themselves are the owners of both the natural resources and the local knowledge. They know how to exploit and protect what is important to human life and to natural diversity. Community based traditions and democratic ones are the potential strength to encourage them to be core members in forest protection and natural resource conservation.
- The culture of ethnic minorities is cemented by the forest and its wildlife. They have their

own methods of building and managing the economy, culture and environment. They understand the ways to exploit the cultural factors/aspects in order to promote natural resource management and conservation of unwritten laws, festivals, rituals, and religious beliefs (such as the Water God, Rain God or animal worship.)

- Notably, the women's role is highly respected, in not only matriarchy society, but in other communities as well. Women's daily life is intertwined with their forest, as they are the core member of family who produce food, fetch logs and water, and raise animals to feed their children. They will gradually depend less on the forest if their and family members' living standards are improved with better methods. By then, animal hunting will not be the main income for households.
- To promote propaganda in the communities of people's right and obligations towards protection of the natural environment. To help them become more aware of the regions' biodiversity values. The social organizations need to be strengthened to ensure local environment maintenance and natural resource management.
- The Central Truong Son Landscape's conservation and development should be recognized in the strategic aspects and national development policy, as well as the policies' specification and supplementation implemented in each locality, and the appropriateness of human ecology.
- Holistic, inter-sectoral cooperation among the relevant agencies at central or local levels is needed, and most importantly their participation in making and implementing a plan under a united programme bearing their support and without contradiction.

The success of nature protection and conservation is heavily dependant on the people living in such areas, including the ethnic minority and the majority, as well as on the indigenous people and migrants. Consequently, a human being's existence is natural and it cannot be separated from nature.

## BIBLIOGRAPHY

No	Content	Year		Source
		1999	2000	
<b>I</b>	<b>Statistics</b>			<b>PDS</b>
1	Kon Tum	-	2000	Kon Tum
2	Quang Tri	1999		Quang Tri
3	T.T Hue	1999		T.T Hue
4	Da Nang	1999		Da Nang
5	Quang Nam	1999		Quang Nam
6	Quang Ngai	1999		Quang Ngai
7	Binh Dinh	-	2000	Binh Binh
8	Gia Lai	1999		Gia Lai
<b>II</b>	<b>Report on socio-economic development plan</b>			
9	The General report on survey, assessment of the socio ranking process in the ethnic minority and mountainous areas in the period of shifting into the market economy (1999-2000)	1999		The institute of economic and development research - the National economic University
10	General report on projection of Gia Lai's socio-economic development.	3/2001		Gia Lai PPC
11	The common data table on the ethnic minority and mountainous area provinces' socio-economic development.	1991-1995; 1996-2000		MPI
12	Summary report on the socio-economic development plan during 2001-2005	6/2001		Gia Lai PPC
13	Report on the implementation of the socio-economic target by 2000 and the orientation, duties, targets, plan in 2001	1/2001		Gia Lai PPC
14	Report on an evaluation of 5 year socio-economic development (1996-2000), orientation and fundamental solutions for socio-economic development during 2001-2005	11/2000		Dak Doa DPC, Gia Lai province
15	Report on overall socio-economic projection in Mang Yang District, Gia Lai province 2000-2010	2000		Mang Yang DPC
16	Report on PRA in Po lang commune, Mang Giang District, Gia Lai province (under HPP-funded)	9/1997		HPP
17	Summary report on the results of investigation, assessment and proposal for the two conserved areas in Gia Lai			Gia Lai
18	General report on Da Nang city's socio-economic development projection until 2010	07/1997		Da Nang CPC
19	Report on Da Nang city's socio-economic development plan (2001-2005)	02/2001		Da Nang CPC
20	Report on implementation of the 2000 plan and the socio-economic development, national security by 2001 of Da Nang city.	12/2000		Da Nang CPC
21	Sum-up report on 10 years of foreign funding	2000		Da Nang CPC
22	Recapitulative report on the 1999 agro-forestry piscicultural sectors and overcome of the floods plan for spring-winter rice cultivation (1998-1999)	11/1999		Da Nang City AFAD

23	Recapitulative report on the 1998 agro-forestry piscicultural sectors and overcome of the flood plan for spring-winter rice cultivation (1997-1998)	11/1998	Da Nang City AFAD
24	The general index table on some criteria of the people's livelihood and economy in Da Nang's mountainous communes.	8/2001	WWF working group in Da Nang
25	Survey on the CTSL's socio-economic development (Lien Chieu, Son Tra, Hoa Vang district, Da Nang City)	8/2001	WWF working group in Da Nang
26	Project on building the pilot resettlement district on Huong Hoa and Dak Rong, Quang Tri province	10/2000	Quang Tri BEMMA
27	Summary report on general projection of socio-economic development on Dak Rong District, Quang Tri province	06/2000	Dak Rong DPC, Quang Tri province
28	The statistics on the people motivated to the resettlement zone in Huong Ho and Dak Rong districts, Quang Tri province up to 2000	2000	Quang Tri province
29	Report on Quang Tri province's socio-economic development	6/2001	Quang Tri BEMMA
30	Report on 2000 socio-economic development, and plan on the 2001 socio-economic development	12/2000	Dak Rong DPC, Quang Tri province
31	Recapitulative conference on the hunger alleviation and poverty reduction during 1996-2000	05/2000	Quang Tri PPC
32	Summary report on 10-year implementation of the Resolution No.22/NQ-TW by the political Ministry Decision No 72/HDBT by Minister Council (now the government) and avocacy, solution to develop the socio-economic situation in Quang Tri's mountainous areas in the coming years	2000	Quang Tri BEMMA
33	General plan on Quang Tri resettlement of the ethnic minorities until 2010	10/1998	Quang Tri BEMMA
34	Subject on socio-economic development orientation in the mountainous areas up to 2010	03/1995	Quang Tri BEMMA
35	Report on the implementation of ethnic minority and mountainous areas issues in the first 6 months of 2001	06/2001	Quang Nam BEMMA
36	Report on the plan of socio-economic development during 2001-2005	01/2001	Quang Nam BEMMA
37	Sum-up report on the implementation of the socio-economic development programe in the mountainous extremely difficult and remote communes during 1999-2000 and the plan for 2001 by T.T Hue	6/2001	T.T Hue BEMMA
38	Report on the implementation of 1999 plan and the key duties for 2000 socio-economic development	2/2000	T.T Hue PPC
39	The survey on people's livelihood, socio-economic culture issues in T.T Hue mountainous communes	7/2001	T.T Hue PPC
40	Report on the ethnic minority and mountainous areas by 2000 and the 2001 duties	12/2000	T.T Hue DARD

41	Report on socio-economic development (2001-2005) in Kon Tum province	06/2001	Kon Tum PPC
42	Report on the implementation of advocacy, policy on socio-economic development during 1991-2000 and continuously during 2001-2005	06/2001	Binh Dinh PPC
43	Report on the implementation of the socio-economic development programme in the mountainous mid-land during 1996-2000	02/2001	Steering board on the mountainous area's socio-economic development in Quang Ngai
44	Report on the implementation of the programmes/projects in the ethnic minority and mountainous areas in the first 6 months and the last 6 months	06/2001	Quang Ngai BEMMA
45	The ethnic minorities in Quang Ngai province	12/2000	Quang Ngai PPC
<b>III</b>	<b>Report on starvation and poverty status</b>		
46	General results on poor and starved households	7/2000	Inter DOLISA - T.T Hue Do
47	The general chart on the analysis of the poor and starved households in Phong Dien district, T.T Hue province	6/2000	Phong Dien DPC, T.T Hue
48	The general chart on the analysis of the poor and starved households in Nam Dong district, province	6/2000	Nam Dong DPC
49	The general chart on the analysis of the poor and starved households in Phu Loc district, T.T Hue province	6/2000	Phu Loc DPC
50	The general chart on the analysis of the poor and starved households in A Luoi district. T.T Hue province	6/2000	A Luoi DPC
51	The general chart on the analysis of the poor and starved households in Huong Tra district. T.T Hue province	6/2000	Huong Tra DPC
52	The general chart on the analysis of the poor and starved households in Quang Dien district, T.T Hue province	6/2000	Quang Dien DPC
53	Meeting record on the consideration of the difficulties in Dak Glei district's communes, Kon Tum province	12/05/2001	Dak Lei district Kon Tum province
54	Meeting record on the consideration of the difficulties in Ngoc Hoi district's communes, Kon Tum province	04/05/2001	Ngoc Hoi district Kon Tum province
55	Meeting record on the consideration of the difficulties in Dak To district's communes, Kon Tum province	03/05/2001	Dak To Kon Tum province
56	Meeting record on the consideration of the difficulties in Dak Ha district's communes, Kon Tum province	04/04/2001	Dak Ha district Kon Tum province
57	Meeting record on the consideration of the difficulties in Sa Thay district's communes, Kon Tum province	04/2001	Sa Thay district Kon Tum province

58	Recapitulative report on the implementation of the starvation alleviation and poverty reduction during 2001-2010 and the plan on extracting the province's budget to cover interest for the poor households in communes under No 3 area, the frontier commune in Kon Tum province	2001	Kon Tum PPC
59	Sup-up report on the implementation of the starvation and poverty status programme 1 in the period 1998-2000 in Kon Tum province	2001	Kon Tum PPC
60	The chart on synthesis and clarification of the fundamental difficulties with regard to infrastructure the socio-economic condition of the communes in Kon Plong district, in Kon Tum province	31/12/2000	KonPlong DPC, Kon Tum PPC
61	The chart on synthesis and clarification of the fundamental difficulties with regard to infrastructure the socio-economic condition of the communes in Kon Tum town	31/12/2000	Kon Tum town PC
62	Report on starvation and poverty status by 2000 in Kon Tum province	12/2000	Kon Tum PPC
63	Recapitulative report on hunger alleviation and poverty reduction in 1999 and the orientation/plan for 2000 in Kon Tum province	2000	Kon Tum DOLISA
64	Report on starvation alleviation and poverty 1998 reduction in 1998	1/1999	Kon Tum's Ho Chi Minh Communist party group
65	General report on starvation alleviation and poverty reduction during 1996-2000 and plan in 2001-2005		Kon Tum PPC
66	Speech on the Kon Tum Farmer Union's participation in starvation alleviation and poverty reduction	03/1999	Kon Tum FU
67	Report on determining the poor household according to new criteria	3/2001	Binh Dinh DOLISA
68	General results on determining the poor household with regard to new criteria in the period 2001-2005	1/2001	Da Nang city starvation alleviation and poverty reduction management board
<b>IV</b>	<b>Population</b>		
69	General report on Binh Dinh province's population dated 1/4/1999		Binh Dinh
70	Sum-up report on the overall census of population and houses deted 1/4/1999 in T.T Hue province	8/1999	T.T Hue's Steering Board on census of population and houses
<b>V</b>	<b>Agriculture</b>		
71	The agriculture in the country's ethnic minorities and mountainous areas: agriculture production value and the area for food cultivation	1995-1998	MPI
72	Report on 2000 agriculture and 2001 orientation/duties	01/2001	Kon Tum DARD
73	Report on Kon Tum's 2000 agricultural production result	2000	Kon Tum Province

74	Report on Kon Tum's 1999 agricultural production result and 2000 orientation, duties	12/1999	Kon Tum DARD
75	Report on Kon Tum's 1998 agricultural production result and 1999 orientation, duties	12/1998	Kon Tum DARD
76	1997 recapitulative report and 1998 plan	02/1998	Kon Tum DARD
77	Report on Kon Tum's 1996 agricultural production result and 1997 orientation, duties	02/1997	Kon Tum DARD
78	Report on Kon Tum's 1997 agricultural production result and 2000 orientation, duties	1997	Kon Tum
79	The statistical chart on 1999 agriculture production result	04/2000	Gia Lai DARD
80	Official report on 1998 agriculture production results	03/1999	Gia Lai DARD
81	Official report on 1997 agriculture production results	02/1998	Gia Lai DARD
82	Sum-up report on 1999 agriculture production results, the explanation of 2000 plan and 1999-2000 spring crop	11/1999	Quang Nam DARD
83	The project on agricultural and rural economy's development (2001-2010)	2000	Da Nang DAFD
84	The programme on agricultural and rural economy's development, solution for employment and income generation for rural people in Da Dang (2000-2010)	12/1999	Da Nang DAFD,
85	The report on 1996-2000 agriculture and rural development sector	06/2001	Binh Dinh DARD
<b>VI</b>	<b>Forestry</b>		
86	Summary report on the forest via inventory		MARD
87	Some recommendation on forest progress		MARD
88	Recapitulative report on the three years of implementing Directive No. 286 TTg and 287 TTg by the Prime Minister regarding to promoting the emergent solutions for forest protection and development as well as supervizing and tracking down the individuals and organizations who continue to destroy the forest	10/2000	MARD
89	Document on stipulating the specific duties and working relationship among the government's agencies in charge of forestry sector and the local forest control agencies	08/1994	MARD
90	The sum-up report on T.T Hue forest protection force's 25 years of its establishment and 22 years of its operation and growth		T.T Hue SFPD
91	The programme on forest training and management	05/1998	SNV - T.T Hue SFPD
92	Sup-up Report on the Da Nang's forest control working in 2000	12/2000	Da Nang AFAD
93	Sup-up Report on the Da Nang's forest control and protection in 1999	12/1999	Da Nang AFAD
94	Sup-up Report on the Da Nang's forest control and protection in 1998	12/1999	Da Nang AFAD

95	Sup-up Report on the Da Nang's forest control and protection in 1997	01/1998	Da Nang AFAD
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133	Electricity use in the Ethnic minority and mountainous areas	1995-1999	GDS-VEC
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137	Ethnic minorities population, call name and residential areas in order		CEMMA
138	Several features on the staff in charge of the ethnic minorities in Vietnam		CEMMA
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143	Council meeting records on re-checking three differently developed areas in the mountainous and high communes; the alluvia and secure area's communes in Quang Nam	22/11/2000	Inter-sectoral DOLISA-DPI, Government organization Committee, BEMMA of Quang Nam
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## INDEX I: AREA AND POPULATION OF THE CENTRAL TRUONG SON LANDSCAPE'S PROVINCES/DISTRICTS

No	Province/District	Area (km <sup>2</sup> )	No. of household	No. of people	Density people/km <sup>2</sup>
	<i>8 provinces</i>	<i>57,568.83</i>		<i>7,674,521</i>	<i>133</i>
	<i>46 districts</i>	<i>38,354.11</i>		<i>3,340,615</i>	<i>87.0</i>
<b>I</b>	<b>Quang Tri</b>	<b>4,592.0</b>	<b>122,134</b>	<b>576,666</b>	<b>126</b>
01	Cam Lo district	351.99	9,401	43,691	124
02	Trieu Phong district	350.90	21,536	103,128	294
03	Hai Lang district	498.72	20,745	98,623	198
04	Huong Hoa district	1,179.97	10,551	55,086	47
05	Dak Rong district	1,020.98	5,077	28,067	27
	<i>Total</i>	<i>3,402.56</i>	<i>67,310</i>	<i>328,595</i>	<i>96</i>
<b>II</b>	<b>Thua Thien Hue</b>	<b>5,053.99</b>	<b>203,552</b>	<b>1,049,460</b>	<b>208</b>
01	Hue city	70.99	56,604	293,012	4,128
02	Phong Dien district	953.75	19,709	99,789	105
03	Quang Dien district	163.07	18,323	89,999	552
04	Huong Tra district	520.89	21,448	109,401	210
05	Phu Vang district	280.32	31,968	169,977	606
06	Huong Thuy district	457.34	18,378	88,445	193
07	Phu Loc district	728.09	27,652	143,170	197
08	Nam Dong district	650.52	3,911	20,661	32
09	A Luoi district	1,229.02	6,225	35,006	29
	<i>Total</i>	<i>5,053.99</i>	<i>204,218</i>	<i>1,049,460</i>	<i>208</i>
<b>III</b>	<b>Da Nang</b>	<b>1,248.4</b>	<b>146,571</b>	<b>702,546</b>	<b>563</b>
01	Hai Chau district	24.23	39,651	194,941	8,045
02	Thanh Khe district	9.15	30,176	151,675	16,577
03	Son Tra district	60.31	20,043	100,301	1,663
04	Ngu Hanh Son district	36.44	9,794	44,736	1,228
05	Lien Chieu district	75.74	13,790	63,739	842
06	Hoa Vang district	737.51	33,117	147,154	200
	<i>Total</i>	<i>943.38</i>	<i>146,571</i>	<i>702,546</i>	<i>744</i>
IV	Quang Nam	10,406.83		1,375,928	132
01	Hien district	1,712.49		32,021	19
02	Dai Loc district	585.18		149,889	256
03	Nam Giang district	1,836.5		18,873	10
04	Hiep Duc district	491.77		37,918	77
05	Tien Phuoc district	453.32		71,450	158
06	Phuoc Son district	1,141.27		18,408	16
07	Tra My district	1,645.58		54,001	33
	<i>Total</i>	<i>7,866.11</i>		<i>382,560</i>	<i>48.6</i>
<b>V</b>	<b>Quang Ngai</b>	<b>5,131.51</b>	<b>267,145</b>	<b>1,198,500</b>	<b>234</b>
01	Tra Bong district	755.55	8,886	40,770	54
02	Son Ha district	750.31	13,260	60,245	80
03	Son Tay district	380.74	3,209	14,312	38
04	Ba To district	1,122.35	9,458	44,956	40
	<i>Total</i>	<i>3,008.95</i>	<i>34,813</i>	<i>160,283</i>	<i>53.3</i>

<b>VI</b>	<b>Binh Dinh</b>	<b>6,025.6</b>	<b>316,561</b>	<b>1,485,600</b>	<b>246.5</b>
01	An Lao district	690.4	4,670	23,400	33.9
02	Vinh Thanh district	700.8	5,464	26,100	37.2
	<i>Total</i>	<i>1,391.2</i>	<i>5,931</i>	<i>49,500</i>	<i>35.6</i>
<b>VII</b>	<b>Gia Lai</b>	<b>15,496.0</b>		<b>958,251</b>	<b>61.8</b>
01	Dak Doa district	980.41	15,448	73,399	74.9
02	Mang Yang district	1,126.07	7,412	38,767	34.4
03	Chu Pah district	981.30		58,980	60.1
04	An Khe district	698.73	15,943	88,972	127.3
05	Kon Chro district	1,441.88		29,274	20.3
06	K Bang district	1,845.23		50,712	27.5
	<i>Total</i>	<i>7,073.62</i>		<i>340,104</i>	<i>48</i>
<b>VIII</b>	<b>Kon Tum</b>	<b>9,614.5</b>	<b>66,190</b>	<b>327,570</b>	<b>34.1</b>
01	Kon Tum	420.23	23,620	117,399	279.4
02	Kon Plong district	2,252.37	6,623	32,700	14.5
03	Dak To district	1,377.4	8,991	45,015	32.7
04	Ngoc HÂi district	823.9	5,217	26,204	31.8
05	Dak Ha district	843.6	10,023	49,590	58.8
06	Sa Thay district	2,411.9	5,642	26,322	10.9
07	Dak Glei district	1,484.9	6,074	30,340	20.4
	<i>Total</i>	<i>9,614.3</i>	<i>42,570</i>	<i>327,570</i>	<i>34.1</i>

## INDEX II: THE CENTRAL TRUONG SON LANDSCAPE'S AREA, POPULATION, AND DENSITY

No	Province/District	Area (km <sup>2</sup> )	Commune /ward	Population	Density (people/km <sup>2</sup> )	Urban population (%)	Rural population (%)
<b>I</b>	<b>Quang Tri</b>	<b>3,406.30</b>	<b>81</b>	<b>328,595</b>	<b>-</b>	<b>8.35</b>	<b>91.65</b>
1	Huong Hoa	1,179.97	19	55,086	47	28.92	71.08
2	Trieu Phong	354.92	19	103,128	294	2.09	97.91
3	Cam Lo	351.99	9	43,691	124	13.11	86.89
4	Dak Rong	1,020.98	13	28,067	27	-	100
5	Hai Lang	489.44	21	98,623	198	1.98	98.02
<b>II</b>	<b>Thua Thien Hue</b>	<b>5,053.99</b>	<b>150</b>	<b>1,049,460</b>	<b>208</b>	<b>29.45</b>	<b>70.55</b>
6	Phong Dien	953.75	15	99,789	105	5.92	94.08
7	Huong Tra	520.89	16	109,401	210	6.82	93.18
8	Phu Vang	280.32	21	169,977	606	11.09	88.91
9	T.P Hue	70.99	25	293,012	4128	80.66	19.34
10	Huong Thuy	457.34	12	88,445	193	13.29	86.71
11	Phu Loc	728.09	18	143,170	197	7.45	92.55
12	A Luoi	1229.02	21	35,006	29	14.47	85.53
13	Nam Dong	650.52	11	20,661	32	15.45	84.55
14	Quang Dien	163.07	11	89,999	552	10.94	89.06
<b>III</b>	<b>Da Nang</b>	<b>943.38</b>	<b>47</b>	<b>702,546</b>	<b>744</b>	<b>78.98</b>	<b>21.02</b>
15	Hoa Vang	737.51	14	147,154	200	8	92
16	Lien Chieu	75.74	3	63,739	842	100	-
17	Son Tra	60.31	7	100,301	1,663	100	-
18	Hai Chau	24.23	12	194,941	16,557	100	-
19	Thanh Khe	9.15	8	151,675	8045	100	-
20	Ngu Hanh Son	36.44	3	44,736	1228	100	-
<b>IV</b>	<b>Quang Ngai</b>	<b>3,008.95</b>	<b>58</b>	<b>160,283</b>	<b>53.28</b>	<b>15.0</b>	<b>85.0</b>
21	Tra Bong	755.55	19	40,770	54	16.93	83.07
22	Son Ha	750.31	14	60,245	80	12.88	87.12
23	Son Tay	380.74	6	14,312	38	-	100.0
24	Ba To	1,122.35	19	44,956	40	10.43	89.57
<b>V</b>	<b>Kon Tum</b>	<b>9,614.5</b>	<b>79</b>	<b>327,570</b>	<b>34.1</b>	<b>32.07</b>	<b>67.93</b>
25	Dak Glei	1,484.9	11	30,340	20.4	13.7	86.3
26	Kon Plong	2,252.37	12	32,700	14.5	13.94	86.06
27	Dak To	1,377.4	15	45,015	32.7	19.16	80.84
28	Ngoc Hai	823.9	07	26,204	31.8	21.33	78.67
29	Dak Ha	843.6	09	49,590	58.8	27.54	72.46
30	Sa Thay	2,411.9	17	26,322	10.9	29.00	71
31	Kon Tum	420.23	16	117,399	297.4	51.34	48.66
<b>VI</b>	<b>Gia Lai</b>	<b>7,866.11</b>	<b>72</b>	<b>340,104</b>	<b>48,0</b>	<b>-</b>	<b>-</b>
32	Dak Doa	980.41	15	73,399	74.9	6.39	93.61
33	Mang Yang	1,126.07	10	38,767	34	-	-
34	Chu Pah	981.30	11	58,980	60.1	-	-
35	An Khe	698.73	12	88,972	127.3	35.86	64.14
36	Kon Chro	1,441.88	11	29,274	20.3	21.00	79.00
37	K.Bang	1,845.23	13	50,712	27.5	26.3	73.7

<b>VII</b>	<b>Binh Dinh</b>	<b>1,391.2</b>	<b>16</b>	<b>49,500</b>	<b>35.58</b>	<b>-</b>	<b>100</b>
38	An Lao	690.4	9	23,400	33.9	—	100.0
39	Vinh Thanh	700.8	7	26,100	37.2	—	100.0
<b>VIII</b>	<b>Quang Nam</b>	<b>7,866.11</b>	<b>105</b>	<b>382,560</b>	<b>48.63</b>	<b>13.78</b>	<b>86.20</b>
40	Hien	1,712.49	24	32,021	19	11.20	88.80
41	Nam Giang	1,836.5	9	18,873	10	31.75	68.25
42	Dai Loc	585.18	16	149,889	256	10.93	89.07
43	Tra My	1,645.58	21	54,001	33	19.40	80.60
44	Tien Phuoc	453.32	15	71,450	158	10.18	89.82
45	Hiep Duc	491.77	11	37918	77	7.54	92.46
46	Phuoc Son	1141.27	9	18406	16	33.56	66.44



## **INDEX III: REPORT SERIES OF THE CENTRAL TRUONG SON INITIATIVE**

### **Towards a Biodiversity Vision for the Forests of the Lower Mekong Ecoregion Complex**

Compiled by: Michael C. Baltzer, Nguyen Thi Dao, and Robert G. Shore

#### *a) Main Report*

This report, commonly termed "the biovision", details the biodiversity of the Forests of the Lower Mekong Ecoregion Complex (FLMEC). The FLMEC is an amalgamation of four ecoregions - one of which is the Greater Truong Son. This report is responsible for the delineation of the Greater Truong Son Ecoregion. Within the report is a description of the ecoregion, its biological features of importance, and the threats faced by the ecoregion. The report goes further by identifying and ranking conservation priorities within the Greater Truong Son, with the ultimate goal of ensuring the conservation of all biodiversity of the ecoregion for future generations

#### *b) Technical Annex*

The Technical Annex is the second document in the "biovision" series. This report expands on the information provided in the main report by providing more detailed information about each area identified as a conservation priority (termed a "priority landscape"). In addition, the Technical Annex contains condensed versions of the scientific desk studies on the birds, mammals, vegetation and fish of the entire FLMEC.

### **Socio-economic Scoping Report for the Forests of the Lower Mekong Ecoregion Complex**

Compiled by: John Baker, Bruce McKenney and Jack Hurd

To compliment the large scale biological assessment conducted for the FLMEC, a socio-economic scoping study was also conducted.

This "situational analysis" is less detailed than the biological assessment, with the intention of providing only essential background information about the main threats to biodiversity and the underlying and exacerbating socio-economic factors. In conclusion, goals and recommendations for improving biodiversity conservation are outlined.

### **1. A Biological Assessment of the Central Truong Son Landscape**

Compiled by: Andrew W. Tordoff, Robert J. Timmins, Robert J. Smith and Mai Ky Vinh

Biodiversity Advisory Group: Nguyen Xuan Dang (IEBR); Jack Tordoff (Birdlife International); Le Trong Trai (FIPI); Le Xuan Canh (IEBR); Nguyen Cu (IEBR/Birdlife International); Nguyen Tien Hiep (IEBR); Nguyen Kim Son (IEBR); Vu Van Dung (FIPI); Do Tuoc (FIPI); Pham Mong Giao (FPD); Tran Quoc Bao (FPD); Pham Nhat (Xuan Mai Forestry College); Phan Ke Loc (Hanoi University); Nguyen Van Sang (IEBR); Nguyen Huu Duc (Hanoi Pedagogical University); Rob Shore (WWF Indochina); Alexander Monastyrski (VRTC); Andrey Kouznetzov (VRTC).

This is the first report produced under the Central Truong Son Initiative. Covering one of the Greater Truong Son most critical priority landscapes, A Biological Assessment of the Central Truong Son Landscape follows a similar process to the "biovision" report for the Forests of the Lower Mekong Ecoregion Complex (FLMEC).

This report details the biological importance and status of the Central Truong Son priority landscape, and identifies threats to the region. Furthermore, the report outlines conservation priorities for the region and develops broad targets for each of these priorities. Subsequent Geographical Information Systems (GIS) analyses aid in defining a "conservation landscape" for the Central Truong Son Landscape.

## **2. Socio-economic Issues in the Central Truong Son Landscape**

Compiled by: Nguyen Lam Thanh

This report provides an extensive overview of the socio-economic situation and issues found within the Vietnamese portion of the Central Truong Son priority landscape.

The report contains a great deal of "benchmark data" that is essential to planning for successful conservation and development efforts. This information highlights clear differences between provinces within the priority landscape, and to a lesser extent within individual provinces. Due to the diverse nature of the region, resulting from vast geographical, climatic and cultural differences, the benchmark data is needed to tailor conservation efforts to each area.

## **3. An Assessment of Development Initiatives in the Central Truong Son Landscape**

Compiled by: Aylette Villemain, Herbert Christ, Nguyen Thanh Hai, Tran Kim Long, Bach Tan Sinh and Do Duc Tho

The Central Truong Son Initiative aims to combine successful biodiversity conservation with sustainable development. In order to achieve a balanced result, it is essential that existing and planned development initiatives are identified and integrated into conservation strategies.

This report focuses on the provinces located within the Vietnamese portion of the Central Truong Son priority landscape. Planned and existing development initiatives, such as road construction and poverty alleviation projects, are detailed in the report and the potential effects on conservation are commented upon.

## **4. Existing Land-use Management in the Central Truong Son Landscape**

Compiled by: Tran An Phong

Research Team: Tran An Phong, Dao Van Can, Ta Hoa Binh và Nguyen Xuan Phuong

Within Vietnam, extensive work has been carried out in designating land-use management practices. This report attempts to pool the often confusing and scattered information into one cohesive map of existing land-use management practices in the Central Truong Son Landscape.

The main outputs of the study are detailed Geographical Information System (GIS) data and maps; they may be combined with additional data for further analyses. However, a brief accompanying report provides some explanation of land-use management within the Central Truong Son Landscape.

## **5. People, Land and Resources in the Central Truong Son Landscape**

Compiled by: Huynh Thu Ba

Research Team: Huynh Thu Ba; Le Cong Uan; Vuong Duy Quang; Pham Ngoc Mau; Nguyen Ngoc Lung; Nguyen Quoc Dung

In addition to extensive biological and situational data, an understanding of how local communities utilize and interact with their environment is essential to developing effective and integrated conservation strategies.

This report aims to develop a more detailed understanding of the current issues related to people, land and resources - in particular Community Based Natural Resource Management (CBNRM). The study focuses on two pilot sites within the Central Truong Son Landscape, where extensive fieldwork was conducted. Detailed comparisons both within and between the sites are made and key recommendations are listed.

## **6. Tourism Potential of the Central Truong Son Landscape**

Compiled by: Hoang Phuong Thao

Tourism within the region is a rapidly expanding sector. If developed properly, this could provide significant financial benefits to the inhabitants of the Greater Truong Son.

This report investigates existing tourist attractions and facilities with a view towards their potential enhancement. The study also examines the potential of developing additional tourism infrastructure, investigating the full range of possibilities (including ecotourism), as all tourism has the potential to either benefit or harm conservation in a direct or indirect manner.

## **7. Hunting and Collecting Practices in the Central Truong Son Landscape**

Compiled by: Le Trong Trai, Dang Thang Long, Phan Thanh Ha and Le Ngoc Tuan

Phong Dien Nature Reserve (Thua Thien Hue Province) is a critical part of the Central Truong Son Landscape as it protects one of the last remnants of lowland forest and is home to important species such as Saola and Edward's pheasant.

This study builds on existing data collected from Phong Dien, and expands the scope to include seven villages. The study investigated which natural resources are used in the area, where they are collected from and their value in financial and cultural terms. The analyzed information points out a local dependence on natural resources.

WWF embarked on **Ecoregion-Based Conservation** in 1998 in response to concerns about the increasing pace of biodiversity loss and the need to increase the scale and integration of global conservation efforts. Thinking and acting across large scales (such as ecosystems, bioregions, or - in WWF's case - ecoregions) can better address both the need to conserve viable species populations and ecosystem processes, and the need to integrate conservation and human development.

Ecoregion conservation begins with the "Global 200" ecoregions - 238 large, biologically-defined regions identified as representing the highest priorities for conservation across all the Earth's major habitat types. The Forests of the Lower Mekong is a complex of four diverse and threatened ecoregions, three of which are listed as Global 200 ecoregions. Established in 1999, the Ecoregion Action Program (EAP) in the Forests of the Lower Mekong is currently working to conserve the beautiful and endangered biodiversity of two of these ecoregions - the Greater Truong Son and the Central Indochina Dry Forests.

**The Greater Truong Son ecoregion** comprises some of the world's most unique and threatened wildlife - from its charismatic endemic species such as the stunning Douc langur and the remarkable saola, to some of the world's most endangered and evocative species like the Asian elephant, tiger and Javan rhinoceros. The future of these, and many other species is dependant on successful, long-term conservation of the ecoregion as a whole that must be undertaken immediately, before they are lost forever. EAP in the Greater Truong Son aims to conserve this ecoregion through:

- Mobilising conservation throughout the entire Greater Truong Son ecoregion
- Protecting key sites and species through integrated conservation and development activities in priority landscapes
- Promoting a supportive policy environment for conservation and sustainable development
- Laying the foundations for lasting conservation

**The Central Truong Son Initiative** is a pilot initiative being developed by WWF's Greater Truong Son EAP in cooperation with the Governments of Vietnam and Lao P.D.R.. The aim of this fledgling initiative is to create partnership of a broad range of stakeholders - from local communities to government institutions and international organisations - working together to secure biodiversity conservation and sustainable development in the Central Truong Son Landscape.

**WWF** is one of the world's largest and most experienced conservation organizations, with almost five million supporters and a global network active in more than 90 countries.

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans can live in harmony with nature, by:

- Conserving the world's biological diversity
- Ensuring that the use of renewable natural resources is sustainable
- Promoting the reduction of pollution and wasteful consumption

WWF produced the Central Truong Son Initiative Report Series with the cooperation and support of the FPD and USAID.

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**Vietnam's Forest Protection Department (FPD)** is a government partner in the Central Truong Son Initiative.

The FPD, located under the Ministry of Agriculture and Rural Development (MARD), is responsible for providing technical advice and guidance in regard to Special Use Forests, and for wildlife management and law enforcement.

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USAID, an independent federal government agency, is the principal U.S. agency to extend assistance to countries recovering from disaster, trying to escape poverty, and engaging in democratic reforms.

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