

Survey and evaluation of actual socio-economic conditions relating to special-use forests as a base for the establishment and socio-economic development of buffer zones of national parks and nature reserves in our country

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I. Objectives of the research subject

1. Evaluation of actual socio-economic conditions of the buffer zones relating to the establishment and protection of selected 8 special-use forest areas.
2. Elaboration of criteria and general regulations of buffer zone as a base for strengthening the planning, plans, organization, management and developing policies for socio-economic development of buffer zones of national parks and nature reserves.
3. Recommendation on scientific base for developing mechanisms, policies aimed at socio-economic development and improvement of the people's living standards in the buffer zones, hunger eradication and poverty alleviation in contribution to effective protection and management of special-use forests in our country.

II. Research content and methodology

1. The target to be surveyed:

General survey was carried out in 8 units: 6 national parks (Tam Dao, Ba Be, Bach Ma, Yorkdon, Cat Tien and Tram chim) and 2 nature reserves (Pu Mat, Xuan Son). Concrete targets of survey were physical conditions, socio-economic conditions, socio-economic policies, human beings and production organization in 6 national parks and 2 nature reserves mentioned above.

2. Scope of survey

The survey was carried out in about mean 120 households/commune in the buffer zones of each national park and nature reserve. Practically 2,997 households in 25 communes, 15 districts and 12 provinces have been studied in the survey.

3. Duration of the research: 2 years (1998 - 1999)

4. Research methodology

- Inheritance method;
- PRA method;
- Economic calculation, analysis and synthesis method;
- Expert method.

III. Research results

1. Physical conditions, biodiversity and socio-economic conditions of the surveyed units

1.1. As regards topography, natural features and landscape, biodiversity.

Each nature reserve or national park has its different topographical type natural features or landscape. This reflects the specific physical conditions of the national parks and nature reserves corresponding to the ecological zones. As regards geographical location, the 6 national parks and 2 nature reserves are distributed as follows:

North latitude: from 10⁰37 to 22⁰34

East longitude: from 105⁰23 to 107⁰53

1.2. As regards socio-economic conditions:

- Population: the population in buffer zones of the 6 national parks and 2 nature reserves is 567,359 persons. Population growth rates from 2% (Tam Dao national park) to 2.4% (Ba Be National Park). Population densities from 18 persons/km² (Xuan Son nature reserve) to 580 persons/km² (Tam Dao National Park).
- Ethnology and human resources:
- + Ethnology: There are in all the 8 surveyed units 23 ethnic groups (Kinh, Dao, Nung, Tay, San Diu, San Chi,

Cao Lan, Hoa, H'mong, Ka Tu, Van Kieu, M'nhong, E De, Ba na, Thai, Kho Me, Chau Ma, Stieng, K'ho, Dan Lai, Man Thanh, Muong.

+ Human resources: Most of the labour forces are young and strong.

+ Agricultural, forest production and fishery:

As regards agricultural production:

Total land area in the buffer zones used for agricultural, forest production and VAC (gardening, Fishery and animal husbandry) models establishment is 37,512 ha.

Agricultural production consists of water- rice and hill- rice cultivation. Forest production mainly consists of raising forest capital as planned by the establishment of new forests in the buffer zones of the 8 units (14,733ha) with main planted species such as Eucalypts, Acacia, Pines and Erythrophloeum fordii.

- Aquatic products management: Mainly fish rearing in rivers, streams or ponds, lakes.

- As regards health care, education and infrastructure construction:

Education: communes in the buffer zones all have primary and secondary schools but the schools and class - rooms are still poorly equipped. As regards infrastructure construction: the communes all have road and water-way networks serving the traveling and work in the fields The Investment in construction roads, stores houses, schools and health stations is not much. Communication, audio- visual means are still inadequate.

2. Results of socio- economic survey in the buffer zones of 6 national parks and 2 nature reserves.

2.1. The area of these national parks and nature reserves is 728,145ha of which 318,769ha is forest and forest land area.

2.2. The area of the buffer zones of 6 national parks and 2 nature reserves is 409,376.4 ha. The area of buffer zones is 1.28 times more than the core area of the 6 national parks and 2 nature reserves.

3. On the People's life and economic conditions in 6 national parks and 2 nature reserves.

3.1. Number of households, people and labourers:

According to the survey, there are in the buffer zones of the 8 units 2,997 households of which the households of the Kinh Ethnic group represent 40%; those of ethnic minorities represent 60% total population is 15,796 people with 7,001 labourers.

3.2. Education health care, cultural and information services.

In education although there have been implemented many measures, illiteracy can not as yet be done away with in the communities; cultural level of the labourers is still low, especially the number of people being professionally trained is all the more limited. The communes and hamlets in the 8 surveyed units all have health care station. The activities of the commune and hamlet health care network play an effective role in the control and prevention of some common epidemics: malaria, goitre,..

3.3. Occupations

Occupations are: agricultural production, forestry, joinery, black smith, rice- milling, trade and others of which the main ones are agricultural and forest production (69%)

3.4. Total income

Total income of the surveyed households in the buffer zones of 6 national parks and 2 nature reserves is 37,591 million dong of which that comes from crop cultivation represents 39%, from animal husbandry 22%, forestry 22% and others 17%.

Total income of the surveyed households in the buffer zones of 8 units in 2 year (1998 - 1999)

Unit: million dong

Names of surveyed units	Total income		Of which							
		%	Crop cultivation		Animal husbandry		Forestry		Other	
			TS	%	TS	%	TS	%	TS	%
Tam Dao National Parks (NP)	5115	100	1690	33	1002	20	1603	31	820	16
Ba Be NP.	4555	100	1616	35	550	12	1553	34	836	19
Bach Ma NP	2446	100	270	11	551	23	738	30	887	36
YokDon NP	4667	100	1673	36	633	14	1439	31	922	19
Cat Tien NP	4309	100	1916	44	1383	32	246	6	764	18
Tram Chim NP	8058	100	4853	60	2225	28	125	2	855	10
Pu mat Nature Reserve	5454	100	1720	32	1277	23	1652	30	805	15

Xuan Son Nature Reserve	2987	100	947	32	721	24	892	30	427	14
Total	37591	100	14685	39	8342	22	8248	22	6316	17

Total expenditure of the surveyed households in the buffer zones of 6 national parks and 2 nature reserves in two year (1998 - 1999) is shown in the following table:

Unit: million dong

Names of surveyed units	Total expenditure		Of which									
		%	crop cultivation		Forestry		Animal Husbandry		Daily life necessities		Others	
			TS	%	TS	%	TS	%	TS	%	TS	%
Tam Kỳ NP	7,662	100	1,465	-	1,612	16	1,485	12	2,4	62	78,62	1
Ba Bó NP	6,940	100	1,416	-	1,720	22	585	6	2,359,12	72	859.88	-
Bách M. NP	4,049	100	262	2	727	12	556	13	1,623,96	61	880.04	12
YokDon NP	7,629	100	1,530	11	1,400	8	570	6	3,273,38	69	855.62	6
Cử Tiển NP	6,025	100	1,087	22	220	4	1,395	16	1,902,70	52	1,420,30	6
Trùm Chim NP	10,162	100	4,647	44	111	2	1,952	5	2,692,44	48	759.56	1
Pi M, t NR	7,867	100	1,557	-	1,720	22	1.30	15	2.5	61	24,86	2
Xuân Sơn NR	3,764	100	867	-	841	20	651	20	990,46	57	414,54	3
Total	54,198	100	12,831	13	8,351	12	8,524	11	17,751	60	6,001	4

3.5. Economic classification of the households

The research subject has made use of 5 indices for the classification and applied the method of point marking to evaluate real situation of the households. Results of the classification are shown in the following table

Result of economic classification of the households in the buffer zones of 8 surveyed units in the two years (1998 - 1999).

Names of surveyed units	Total income		Of which							
	In dong	%	Rich		rather rich		average		poor	
			Hé	%	Hé	%	Hé	%	Hé	%
Tam Kỳ NP	390	100			130	33	180	46	80	21
Ba Bó NP	390	100			99	25	192	50	99	25
Bách M. NP	350	100			54	15	170	49	126	36
YokDon NP	363	100	1		79	22	124	34	159	44
Cử Tiển NP	365	100			64	18	166	45	135	37
Trùm Chim NP	350	100	9	2	27	8	104	30	210	60
Pi M, t NR	395	100			66	17	192	48	137	35
Xuân Sơn NR	394	100			41	12	124	31	226	57
Total	2997	100	10		563	19	1252	42	1172	39

4. Criteria for determination on buffer zones establishment and main recommendations for socio-economic development in the buffer zones of national parks and nature reserves.

4.1. Proposed criteria for buffer zones: Criteria to determine on buffer zone.

Criteria 1. As regards the inner and outer boundaries of the buffer zone

Results of the survey show that the width of the buffer zone may be at least 1km and at most 10km. With the inner and outer boundaries of the buffer zones besides relying on natural landmark as mentioned above, posts, notices, check posts, barriers must also be erected as legal obstacles serving the protection of precious floras and faunas of the nature reserves.

Criteria 2.

The scale of land area of a buffer zone entirely depends on its physical and land capital. Types of natural land, forested land, bare land and denuded hills, agricultural land and other land type for households, person and

labourers. Reference can be made from the research results in the following table:

Scale of land area of various types for households, labourers and person from survey in the two years (1998 - 1999)

Indices	Unit	Mean for a household	Mean for a labourer	Mean for a person
Natural land area	ha	81,5	35	15
Forested land	ha	41	18	8
Bare land, denuded hills	ha	27	11	5
Agricultural land	ha	13	5	2
Others	ha	0,5	0,2	0,09

Criteria 3. Population, labour force, ethnology.

In the planning of buffer zones, criterion of human beings must not be overlooked. General figures can be determined in this aspect such as scale of land area, for example mean 5 persons/ household, mean 2 labourers/ household.

IV. Recommendations on main approaches for socio-economic development in the buffer zones

1. Developing forest capital in the communes in the buffer zones
2. Adoption of suitable cropping and agro-forestry systems.
3. Science and technology transfer and strengthening of agricultural and forest extension systems
4. Special attention must be paid to introduction of careers and provision of employment.
5. There need be close coordination of economic sectors in the buffer zone and local communities for effective and suitable socio-economic development.
6. Main policies must be worked out for socio-economic development in the buffer zones of national parks and nature reserves.

V. Conclusions and recommendations

1. Conclusions:

After two years organizing the survey study and research on physical, socio-economic conditions of nearly 3,000 households in the communes of the buffer zones of 6 national parks and 2 nature reserves representing the special - use forests in our country we would like to make known some issues dealt with by the project as follows: 6 main problems the conclusions of which have been reached after the survey and study:

- Potentiality and biodiversity of 6 national parks and 2 nature reserves.
- Socio-economic conditions.
- Land use and human resources, the implementation of policies and projects.
- The relation between nature reserves and the buffer zones.
- Criteria to determine on buffer zone.
- Recommended main approaches for socio-economic development of the buffer zones of national parks and nature reserves.

2. recommendations:

To implement the above recommendations and approaches, proposal is made to the Ministry of Agriculture and Rural Development to give its opinions and promulgate written documents with content as follows:

- + Issuing decision or having written documents submitted to the Government to issue decision on recognition of the buffer zones of national parks and nature reserves so that their socio-economic development planning and plans can be carried out.
- + Issuing decision on recognition and promulgating criteria for the determination on buffer zones of national parks and nature reserves.
- + Deciding some main policies for socio-economic development in the buffer zones as recommended in this report.

[Back to list of reports](#)