

Guest Speakers' Addresses



PRESENTATION BY H.E. KALEVI HEMILÄ FINNISH MINISTER OF AGRICULTURE AND FORESTRY

Session: Exchange of experience and state of the art in Sustainable Forest Management by ecoregion: Boreal Forest and Temperate Forest.

Ladies and Gentlemen,

It is a great honour to have the opportunity to address such a distinguished audience here at the eleventh World Forestry Congress. I wish to thank the organisers and the Turkish Government for this opportunity.

The forest sector has many different ecological, economic, social and cultural functions all over the globe. For my own country, forestry and forest industry are of the utmost importance.

I have divided my presentation into four sections. First of all, I shall speak about (1) the Intergovernmental Panel on Forests (IPF) follow-up, and then I shall move on to (2) national forest programmes, we shall then take a look at (3) criteria and indicators and finally national implementation of sustainable forest management.

I should like to begin with the

1. FOLLOW-UP OF THE INTERGOVERNMENTAL PANEL ON FORESTS.

The United Nations General Assembly in its Special Session in June this year failed to reach an agreement to start negotiations on a global forest convention. My own country, Finland, had very much hoped that the long and in many ways fruitful process of the IPF would culminate in a decision to initiate concrete negotiations. Nevertheless, I feel that we, and by we I mean all of us here in Antalya and the rest of the forest community can be fairly satisfied with the results of the IPF.

We have, most importantly, brought the forest issue to the political agenda all over the world and we have produced a lot of concrete suggestions. I strongly urge the politicians and all of us involved in forestry, to show the world that we can turn these proposals on sustainable forest management into concrete action. This will be our contribution to an ecologically, economically and socially better world.

Now that the mantle of the IPF has been passed on to the Intergovernmental Forest Forum which in turn can facilitate further discussion and follow and report on sustainable forest management, I am convinced, that we have achieved a common platform and common language.

This leads me to the second part of my talk.

2. NATIONAL FOREST PROGRAMMES

As you are all aware, the IPF emphasized the importance of national forest programmes. This is at the same time a new and an old concept. For several years FAO has been especially active in promoting and implementing national forest programmes in developing countries. National forest

programmes as a basis for a national forest policy have been common in a number of industrialized countries. So, in this respect the idea is of course not an entirely new one. The importance of national forest programmes goes without saying.

But still there are new elements in the suggestions made by the IPF. The Panel emphasised a number of specific points, in particular, the need for appropriate participatory mechanisms to involve all interested parties and also the recognition and respect for the traditional rights of, for instance local communities and forest owners.

In Finland, we have started the work on our new national forest plan as a truly two-way communication. Our forestry centres, the regional forest authority, is responsible for the preparation of the so called regional target programmes. That means that after some months we will have about fifteen target programmes formulated by people representing different interests within the region. We have the forestry organisations, environmental organisations, forest owners, the forest industry, the regional authorities all, taking part in the truly participatory work of defining the combined ecological, economical and social goals within forestry in the region.

Those regional target programmes will then be used by my Ministry to compile our national forest programme.

I particularly wanted to mention this, because I wished to stress that national forest plans are not tools reserved only for developing countries or less-forested countries, but also for industrialised countries such as my own, which depends to a great extent on forestry. For National Forest Programmes to work, we shall of course need guidelines, which brings me to the third part of my talk,

3. CRITERIA AND INDICATORS

My country has been particularly active in this matter. I am convinced that we need criteria and indicators as tools to measure sustainable forest management. Without these tools we cannot make real progress. We will just have a lot of talk, with little action.

At present there are seven international or regional initiatives on criteria and indicators for sustainable forest management going on. The common denominator of these processes, is that they have all now developed criteria to describe the essential elements of sustainable forest management, and indicators to be able to measure or assess progress towards sustainability in forest conditions and management. The progress is assessed by the regular measurement of the indicators.

The IPF encouraged countries to integrate national-level criteria and indicators for sustainable forest management in national forest assessments. Since most countries have their own system of forest inventories to collect data on forest resources, growing stock, increment and removals etc., the data is often based on different definitions, classifications and time intervals. It would, however, be desirable, if measurement methods could provide comparable information in order to contribute to the greater consistency in reporting between different countries. Easier comparability between the different international criteria and indicators initiatives in the future is also desired.

We heartily acknowledge the work made by the FAO in the Global Forest Resource Assessment. The current interval between global forest resources assessments is 10 years. According to the IPF, the possibility of continuous region by region assessments could also be considered, together with the possibility of updating data at regular intervals. That would, however, require reinforcement and the guarantee of financial and human resources for the FAO.

We now come to part four of my talk.

4. NATIONAL IMPLEMENTATION OF SUSTAINABLE FOREST MANAGEMENT

Mr Chairman, I should like to say some words about forest policy development which has taken

place in Finland since the Rio-conference.

The New Environmental Programme for Forestry in Finland was developed in 1994 by the Ministry of Agriculture and Forestry and the Ministry of the Environment, in cooperation with other authorities and non-governmental organisations also taking part in the work. The Programme offered a basis for the current reformation of forest laws.

We are actually in the final phase of a profound reformation of our forestry legislation. The new *Forest Act* and the *Act on the Financing of Sustainable Forestry* strive to maintain both sustainable production of timber as well as variety in the forest ecology. These acts came into force at the beginning of this year, but guidelines from the 1980's already contained all of the main principles now integrated into the legislation.

A new *Nature Conservation Act* was prepared in connection with the reformation of the forestry legislation. Special attention was paid to the compatibility of the forest acts and the Nature Conservation Act.

Finally, Mr Chairman, I would like to once more emphasize, that the lions share of the efforts for enhancing sustainability within forestry could and should be made at a national and local level. It is far too easy to push away the decisions by hiding behind international negotiations. It is both the right and the responsibility of the national governments to make the decisions. International discussions are of the utmost importance, but in the final analysis most of the improvements have to be put into practice at a national and local level.

Mr. Chairman, ladies and gentlemen, I thank you for your time and attention.

INNOVATIVE APPROACHES TO PROMOTE PEOPLE'S PARTICIPATION IN SUSTAINABLE FOREST MANAGEMENT IN INDONESIA

Djamaludin Suryohadikusumo¹

SUMMARY

As a major tropical timber producer and a country of mega-biodiversity, Indonesia is committed to manage its forest sustainably. It realizes that one among the key factors in achieving sustainable forest management is through people's involvement, and therefore it does actively attempt to find new approaches how to best involve communities surround the forest in forest management. In brief, participatory policy and problems related to it, development and capacity building are among the aspects that which are considered essential, as presented in the paper.

Keywords: Participatory forestry, people involvement, and capacity building.

INTRODUCTION

Indonesia, one of the most important tropical forest countries with a forest cover of 65% of the total land mass, is endeavoring to implement sustainable forest management principles to contribute significantly to its national development. In 1993, a Ministerial Decree was issued on National Criteria and Indicators of Sustainable Forest Management, which is in line with the International Tropical Timber Organization (ITTO)'s criteria and indicators. This was followed by a Ministerial Decree concerning Sustainable Management of Natural Production Forests at the Management Unit Level. These criteria and indicators have been used, as a condition in considering the extension of the timber concession permit.

One of the complex key criteria which require conceptual consideration and gradual implementation is the socio-economic aspect of people living within and adjacent to the forest. This aspect is complex in Indonesia because the country has a great ethnic and cultural diversity, while the standard of living is low in terms of income, education, prosperity and health. Some people, particularly those living in the outer islands, are still practicing shifting cultivation or slash and burn agriculture, which can hamper the attainment of sustainable forest management where perennial crops are not planted and the crop cycle is reduced.

In 1996 about 11.3 % of the total population (22.5 million people), of which 30% lived in villages within or near the forests, have been classified as "poor villages" and included in the Presidential Poverty Alleviation Program. They have limited access to the forest resources, technology and markets. On the other hand, modern forest utilization practices within their area have not given them the opportunity to participate in the activities to improve their standard of living.

¹ Minister of Forestry, Republic of Indonesia, Manggala Wanabhakti Building Block I, 4th Floor
Jl. Gatot Subroto, Jakarta, Indonesia.

Various efforts in social forestry have been made by the Government of Indonesia, such as the tumpang sari (taungya system) practice that has been applied in Java for hundred years, and now has been introduced to the outer islands. Social forestry, private forest development and other participatory programs continue to be developed.

PARTICIPATORY FORESTRY DEVELOPMENT POLICY

National development, including forestry development, already has long term targets and directives, which are put in the Guidelines of State Policy (GBHN) in 1969. These include human resource development and improvement of the quality of life of the people. To attain these targets, all aspects of life have been simultaneously developed, focusing on the economic sector with the basic philosophy of a development trilogy, namely growth, equitable distribution and dynamic national stability.

In line with the above objectives and guidelines, the objectives of forestry development policy are to improve the quality of human resources through a greater role of forestry in the economy, ecosystem, biodiversity, socio-economic and local development, for present and future generations. Some of the policy objectives include:

1. Forestry development is directed at providing the greatest prosperity for the people by maintaining the harmony and sustainability of the forest functions.
2. Utilization of forest and forest products ensured by the Government through a forest utilization scheme to maximize state revenues while addressing the interests of people living within the forest.
3. As an important component of the ecosystem, the forest is managed in an integrated and environmentally sound manner to maintain soil, water, air, climate and environment functions, while giving maximizing benefits for the people.
4. Forestry development involving people living within and adjacent to the forest.
5. Forest utilization activities directed at helping develop private forests and wood crafts.

Ministry of Forestry of Indonesia has implemented wide range of international cooperation project to promote people's involvement, among others Sustainable Forest Development Project (SFDP) in cooperation with GTZ of Germany, Local Communities Involvement Project in cooperation with local government, Village Development Programme in cooperation with forest concessionaires, Social Forestry Project in cooperation with Ford Foundation and NGOs. In order to further improve these project the Government of Indonesia conducted policy analysis and dialogue to provide input for policy makers through Consultative Group on Indonesian Forestry (CGIF). CGIF has established its special working group on people's involvement policy.

PROBLEMS RELATING TO PARTICIPATORY FOREST MANAGEMENT

The participatory forest management approach promoted by the international community should be a major initiative in forest management in developing countries, where population growth is high, job opportunity is limited, and agriculture practices are at the subsistence level. As mentioned previously, in Indonesia this approach has been in place for the past hundred years ago in the teak forests of Java through application of tumpang sari (the taungya system) with inter-cropping system at the beginning of tree planting. This system continues to develop along with people's needs, in the form of agroforestry, sylvo-fishery, sylvo-pasture and even the Concessionaire Village Development Scheme.

The traditional participatory approach has developed as part of the momentum generated at the

Eighth World Forestry Congress held in 1978 in Indonesia with the theme "Forests for People". It was further strengthened by the Convention on Biological Diversity, Convention on Climate Change, Forests Principles and Agenda 21 of the UNCED convened in Rio de Janeiro in 1992.

Private forest development is a modified program, in which people are encouraged to plant trees in small-holdings and home-gardens of their own land. This pattern which is widely practiced in Java, has been introduced in the other islands. The government basically only provides some technical, management and supervision assistance.

In the outer islands, such as Kalimantan, Sumatra, Sulawesi and Irian Jaya, the partnership pattern between forest concessionaires and local people has been developed through the Concessionaire Village Development Scheme. One of the objective of the scheme is to create community awareness and favorable behavior through promotion of community-driven forest protection and by reducing as far as possible the practice of shifting cultivation practice. This scheme has been applied for the past five years and seems to have a strong drive towards participatory approach development despite the fact that it still has some shortcomings. Since 1995, this program has been one of the criteria for approval of annual cutting permit for the concessionaires.

Another approach has been introduced by the Indonesian Ministry of Forestry in cooperation with GTZ through development of "the Kalimantan Social Forestry Model", which aims at sustainable management of natural forests through social forestry. This approach allows people living within the forest to utilize non wood forest products. The Government provides some financial incentives for planting.

In the industrial forest plantation program, community involvement is conducted through a "foster parent" pattern. People are provided with some capital for timber plantation establishment on their private land while the resulted products are absorbed by the industry, on the basis of partnership.

Transmigration-integrated Industrial Forest Plantation, Transmigration-integrated Private Forestry and Forest for Food are other participatory forest development programs being developed in Indonesia. Transmigration community together with local people and Industrial Plantation Forest Concessionaires cooperate in a strong partnership, which gives quite promising outcomes despite the fact that many things remain to be improved and refined.

Innovation in participatory forest management from planning to supervision are intended to raise the prosperity of the people as well as the sustainability of the forest resources.

The difficult problem yet to solve gradually is how to accommodate the existence of strong traditional /customary rights of forest land. The national legal system does recognize existing conflict with traditional/customary rights, as far as they exist and do not go against the national interests. Most important here is how to integrate the long existing traditional rights in the national law system.

The traditional custom of shifting cultivation is another problem to address. So far Indonesia has adopted an ex-situ as well as in-situ approaches. People who live in the production forest are resettled and are given assistance in the form of housing, agriculture land and sedentary agriculture training/extension. This has, however, proved to be unsuccessful and is being transformed to an in-situ approach. People living in the forest are given development assistance where they are. This pattern turns more successful and provides prospects for further development. While people living within protection forest, national park, and nature conservation area are translocated to more suitable area as ex-situ approach.

Another recognized problem is education for the traditional people. The main target is the young generation, the future agents of development and of introducing people to modernity without neglecting any advantageous traditional customs.

EMPOWERMENT AND CAPACITY BUILDING

There are at least five important aspects of empowerment and building people's capacity to better play a role in and gain more benefits from sustainable forest management.

The effort to solve social problems with people living inside and adjacent to the forest is not work to be done by forestry people on their own. This activity requires proper coordination from policy development to implementation in the field. Various parties are involved, including the Ministry of Agriculture, Office of the Minister of Land Reform, Ministry of Transmigration, Ministry of Social Affairs, Ministry of Home Affairs and Ministry of Industry and Trade.

Institutions are another strategic aspect. Formal community institution in the villages such as the Village Community Council, Cooperatives, and Family Prosperity Development Program should be strengthened. Also important are informal institutions such as customary and religious leaders. They should be given greater roles in motivating people to participate in forestry development, from micro land use planning to forest maintenance and protection.

Non Government Organization (NGOs) as important stakeholders have rapidly developed and actively participate in efforts to promote sustainable forest management. Some of them participate well in policy formulation and many are also directly involved in community development.

Laws and regulations such as the formulation of normative values allow great opportunities for innovation. Most important is the process of regulatory development, which takes into account people's opinion, as well as the specific characteristics of the region. Also important here is the recognition of customary laws in the Basic Forestry Act Number 5/1967 and even further detailed in the Government Regulation Number 21/1970. Such recognition is with the condition that the customary laws are effective in the field.

The last aspect is community education and training, which should be continually developed. Various methods which are adapted to the local environment and the field should give better outcomes

CONCLUDING REMARKS

Efforts to enhance people's participation in sustainable forest management is not an easy task, but it is not too difficult either. People living inside and adjacent to the forest are unsophisticated in thinking and action. It is easy for them to adopt innovation and changes once they realize the benefits.

Through the above approaches, it is expected that the people can improve their standard of living, and that the tropical forest which is the world heritage can continue to function for the benefits of man's living.

POLICY FOR CONSERVATION AND SUSTAINABLE DEVELOPMENT OF FOREST ECOSYSTEMS - SLOVENIAN EXAMPLE *

Franc Ferlin¹

SUMMARY

Forests have always been of importance in Slovenia. Today, more than a half of the land area is covered with forests, which ranks Slovenia among the most forested countries in Europe. Slovenia's forests are well preserved and have a diverse natural structure. There is a long tradition in forestry in Slovenia. Within the boundaries of present-day Slovenia, a series of forest ordinances were issued, the first dating back to 1406 (Ortenburg Forest Ordinance). The first forest management plans based on sustained yield were made at the end of the 18th century. Clear-cutting system was legally forbidden as early as 50 years ago and close-to-nature forest management (natural regeneration and moderate small-scale interventions) has been intensively implemented and developed for the last three decades.

The Forest Act (1993) regulates the biodiversity conservation and sustainable, close-to-nature management of forests ecosystems, both in public and private forests. The **Forest Development Programme of Slovenia** (1996) follows also the Rio 1992 Agenda 21 (Chapter XI) and Convention on Biological Diversity, Alpine Convention and Resolutions on the Protection of Forests in Europe. The main objectives of the FDPS are: (1) forest biodiversity conservation and sustainable development of forest ecosystems, (2) conservation of the natural environment and an ecological balance in the landscape, and (3) contribution to the conservation and sustainable development of the countryside. Programme includes strategy for forest and wildlife management and conservation, and main guidelines for protection of watercourses and natural heritage in forests, and for protected area management.

Keywords: Sustainable forest development, close-to-nature forestry, biodiversity conservation, forest ecosystem policy

INTRODUCTION

Forests have always been of importance in Slovenia. Today, more than a half of the land area is covered with forests, which ranks Slovenia among the most forested countries in Europe. Forests are thus an essential feature and constituent part of the environment. Compared with other European countries, Slovenia's forests are in a relatively better condition and have a more diverse natural

* This paper is mainly based on The Forest Development Programme of Slovenia, adopted by The Assembly of the Republic of Slovenia in February 1996.

² State Secretary, Ministry of Agriculture, Forestry and Food, Ljubljana, Slovenia

structure, which may be attributed to well-planned and careful forest management in the past. The forest management is based on close-to-nature approach, i.e. natural regeneration, individual or group tree selection and moderate small-scale intervention.

There is a long tradition of forestry based on sustained yield in Slovenia. Within the boundaries of present-day Slovenia, a series of forest ordinances were issued, the first (Ortenburg Forest Ordinance) dating back to 1406 (Anko 1985a). The Forest Ordinance for Carniola (Anko 1985b), also called the Theresian Forest Ordinance, was issued in the central part of present-day Slovenia in 1771. This ordinance was written to assure better forest management in a situation when forests were degraded and mismanaged. The first forest management plans were made at the end of the 18th century. An original method for assessing forest growth and managing uneven-aged stands has been developed in Slovenia (a "Control Method") and used for more than 100 years in some parts of the country. Also special forest management method based on an individual selection ("*plenterung*") of trees was adopted more than 100 years ago.

For conservation and sustainable development of Slovenia's forests today was of great importance that clear-cutting system was legally forbidden as early as 50 years ago and that close-to-nature management (now called also "Slovenian Free Method of Silviculture") has been intensively implemented and developed for the last three decades.

THE MAIN FEATURES OF FORESTS

Site Conditions and Natural Diversity of Forests

Slovenia falls within the temperate climate zone, in which temperatures and precipitation are in the main favourable to the development of forests. This region with varied relief and diverse geological conditions, in which the Mediterranean, Alpine and the continental climates converge, is characterised by a wide diversity of forest sites. Most of Slovenia's forests are comprised of beech (44%), beech-fir (15%) and beech-oak (11%) sites, all of which have a relatively high productive capacity. The forests are in a relatively good condition, especially in terms of the diversity of composition of natural tree species and stand structure. The composition of species has been significantly changed due to the dominance of the Norway spruce in only about 15 % of the forests.

Forest Area, Growing Stock, Increment and Felling

The forest area in Slovenia was constantly increasing during the period 1875 - 1990, so that in 1996 it encompassed about 1.1 million hectares, or 54 % of the country area. In 1875 only 36 %, and in 1947 44 % of the surface area of Slovenia was covered by forest. The forest growing stock now amounts as far as 208 m³/ha, and the current annual increment 5.5 m³/ha. Both of them increased more than twice (103 and 117 %) in the last 50 years. According to forest management plans for the 1991-2000 period the anticipated annual allowable cut in all Slovenia's forests is 3.0 million m³ (57 % of conifers), or, on average, 2.8 m³ per hectare (57 % of increment). Actual annual felling in the 1991 - 1995 period accounted for only 71 %, which is mainly a consequence of transition in forestry.

Ownership and Forest Property Structure

Before the beginning of the process of denationalisation of forests in Slovenia, that is in 1990, 62 % of forests were private and 38 % public. It has been estimated that on completion of the denationalisation 80 % of forests will be private and approximately 15 % state-owned. A very high fragmentation of private forest property (about 250,000 owners) is characterised by the average size

of 2.3 hectares, which is among the smallest in Europe. Only 1 % of forest owners had a forest property bigger than 20 hectares in 1990. After the denationalisation has been completed, the proportion of larger properties will increase, and there may be a further fragmentation of smaller properties.

Natural and Man-Made Disturbances

The stability of Slovenian forests has recently been affected by a number of natural disturbances. In the last 15 years the forests have been subjected to many droughts and to frequent damage caused by weather. The physiological weakening of conifers made possible excessive reproduction of bark beetle with a gradation between 1992 and 1995. Air pollution has a distinctly negative effect on the health condition of a forest. The proportion of damaged forest trees, especially conifers, has recently slightly decreased (from 24 % in 1987 to 18 % in 1993). Many forest stands are also severely threatened by an imbalance between herbivorous game populations and their living environment. Nearly a quarter to one third of annual felling is thus carried out in order to remove the effects of above disturbances.

THE NEW FOREST ACT

The new (1993) Forest Act (MAFF 1995) regulates the conservation and close-to-nature management of forests with the objective of permanently and optimally ensuring both the integrity of the forest ecosystems and their functions. Under the act, forest management plans are drawn up for all forests, irrespective of their ownership, and must be observed by all owners. Forest management plans are drawn up at the regional and local levels, and silvicultural plans are made at the site (owner) level for direct implementation. The spatial part of forest management plans links forestry directly with landscape planning. The act also regulates the influence foresters have on the management of wildlife in the forest environment as a whole. Forest owners will have to subsequently managed their forests according to the plans by not exceeding the maximum levels of felling. They will also have to carry out the necessary silviculture and protection measures. In accordance with the system of close-to-nature forest management, trees will be individually selected for felling by forest service.

The act stipulates that special consent be sought for any changes in use of forest land and prohibits all actions which decrease the productivity of forest sites or threaten the existence or functions of the forest. Clear cutting is prohibited, and the gathering of forest fruits is subject to restrictions. In the area of forestry protection the act stipulates, among other things, that chemical substances may be used in the forest only in exceptional cases. Strict measures are laid down for the construction of forest roads; a special feature of the act is that such roads are of public importance. The act regulates also the status of protective forests and forests with special purpose and the method by which this status is conferred. The act establishes the Slovenian Forest Service (SFS) for planning, guidance on forest management and counselling.

THE STRATEGY FOR CONSERVATION AND SUSTAINABLE FOREST DEVELOPMENT

The strategy for conservation and sustainable development of forests, which is the main part of The Forest Development Programme of Slovenia (FDPS), adopted by The Assembly of the Republic of Slovenia in 1996 (MAFF 1996), is based on the Forest Act and follows the Agenda 21 (Chapter XI) of the United Nations Conference on Environment and Development in Rio (1992). It takes also account of the provisions of the Convention on Biological Diversity (1992), Alpine Convention (1993) and Resolutions adopted by Ministerial Conferences on the Protection of Forests in Europe

(1991 and 1993).

The fundamental long-term objectives of the strategy are:

- 1. Conservation and sustainable development of forests with regard to their biodiversity and all their ecological, social and production functions,*
- 2. Conservation of the natural environment and an ecological balance in the landscape,*
- 3. Contribution to the conservation and sustainable development of rural areas and improvement of the quality of life in the countryside.*

General Guidelines for Conservation and Sustainable Development of Forests and Forested Landscapes

Slovenia has a relatively high proportion of forested land, therefore forest management should not be directed at further extensions of forest area. Instead it should be focused on tending existing forests, on better utilisation of their site potential (in terms of quantity and especially quality) and on the conservation, forming and establishment of solitary trees and groups of forest trees outside the forest. Guidelines include: (1) preparation of plans for nature conservation and sustainable landscape development; (2) preparation of plans for the conservation and protection of ecosystems above the forest line; (3) preparation of physical plans for presenting the importance of forest functions; (4) identification of key habitats or areas of special importance for the conservation of the biological diversity; (5) ensuring that ecologically highly vulnerable stands in extreme sites be left to natural development; (6) ensuring that in biologically and ecologically unstable stands a gradual biological stabilisation be carried out by introducing natural tree species; (7) investigation of prospects for the development of eco-tourism in forests and rural areas, especially protected areas; (8) determination of protection regimes for forests with a natural heritage function of outstanding importance, etc..

Guidelines for Close-to-Nature Forest Management

The close-to-nature forest management is based on small-scale management systems, natural regeneration, individual or group tree selection and tending of forests. The emphasis is placed on the conservation of natural populations of forest trees, on the maintenance and establishment of biological diversity and on increasing the forest growing stock and quality yield. There are following guidelines: (1) silvicultural measures should be carefully planned by silvicultural planning; (2) forests should be regenerated on a small scale and natural regeneration should be carried out, as a rule, at adequately long regeneration periods; (3) for planting, tree species suited to site conditions should be used; (4) large trees of high quality should be grown in productive sites; (5) tending measures and removals of trees should be moderate; (6) larger areas of even-aged stands should be gradually changed into stands with a more varied structure; (7) small-scale conversion of stands should be performed if the site potential is highly under-utilised; (8) in young stands tending measures should be intensified with thinning, (9) guidelines for and restrictions on the utilisation of forest goods should be included in forest management plans; etc..

Guidelines for Wildlife Conservation and Management

The strategy of wildlife conservation and management is based on the principle that each wildlife species and its living environment constitute an integrated whole. In the cultural landscape, the natural self-regulating mechanisms, with which a dynamic natural balance is maintained, become disturbed, and so human intervention in wildlife populations (hunting) is a necessity. The conservation of all wildlife and its natural living environment must be based on population management planning as a constituent part of forest management plans. Guidelines are following: (1) management of wildlife populations should be aimed primarily at establishing a balance in the forest ecosystem; (2)

measures to be taken in wildlife populations and their living environment should be based on vegetation and wildlife population analyses and monitoring; (3) fruit bearing tree and shrub species, and an adequate number of snags and tree cavities should be conserved; (4) links between spatially separate wildlife populations should be ensured; (5) for wildlife conservation purposes and research, the former areas of wildlife reserves should be incorporated into planned natural protected areas, etc.

Guidelines for Protection of Watercourses in Forest

Slovenia has a high proportion of forest area, which has a beneficial effect on water resources, and as most of its watercourses originate in forests. Hence, in the forest and other wooded land the forest service should in the future become involved as an equal partner in water management. Guidelines include: (1) in areas in which the forest's hydrological function is of outstanding importance, all activities should be restricted and supervised; (2) special efforts should be made to conserve the natural structure of forests above aquifers and along water bodies; (3) water in the forest should be considered an important biotope; (4) guidelines should be prepared for the conservation of riparian vegetation outside the forest, etc..

Guidelines for Protection of Natural Heritage and Protected Area Management

Because of their good condition and diversity, Slovenia's forests as a whole can be considered a great natural value, of significance to Slovenia and to the wider European territory. Until now, Slovenian forestry has accomplished an important task by establishing forest reserves and protective forests and by setting apart wildlife habitats of special importance. Guidelines are following: (1) ensuring complete protection of forest reserves (i.e., legal protection and, if necessary, their purchase) and forests in IUCN Categories I and II; (2) putting in order field records of the natural heritage in the forest and other wooded land; (3) designation of the areas of protective forests and forests of outstanding nature conservation and ecological importance; (4) setting apart smaller forest areas (ecocells) and individual trees; (5) preparation of a programme for the co-operation of the SFS in the area of nature protection and management of protected areas.

THE PROGRAMME OF CONSERVATION AND SUSTAINABLE FOREST DEVELOPMENT

The FDPS (MAFF 1996) was adopted for the 1995 - 2000 period and assures professional, personnel and material bases for its annual implementation. According to the act the state finances the SFS from the budget and also provides - because of the generally beneficial role of forests - compensations for reduced yields from protective forests and forests with a special purpose, and subsidises the management of private forests. The state, thus, finances primarily measures for preventing or mitigating the disturbances in the functioning of the forest and forest work in protective forests and torrent watersheds. It subsidises silvicultural and protection measures and measures for the maintenance of wildlife habitats, restoration of forests after fires and restoration of forests damaged by natural disturbances, thinning of pole stands and conversion in private forests, and construction and maintenance of forest roads (see Table). The state finances and subsidises forestry activities on the basis of silvicultural plans and other operational projects or plans within the framework of the investment programme for forests, drawn up by the SFS for the current year. If ecological and/or social functions considerably affect forest management, the subsidy is increased by 10 %, but if they determine the kind of forest management, it is increased by 20 %. Only owners of wood production forests having of under a hundred hectares are entitled to the co-financing of silvicultural and protection measures. Forest owners to whom farming and forestry are the main sources of income

(farmers) and owners who unite to form larger groups are given priority for obtaining funds in public tender. Under difficult natural conditions for agricultural and forest production, the subsidy can be increased by 30 % at most.

Table: State budget funds required annually for the optimum implementation of the programme of conservation and sustainable development of forests in Slovenia

INTENDED USE OF FUNDS	Optimum Programme (US \$ per hectare)	Percent of the Total (%)
Financing of the forest service	19.39	57.5
Co-financing of the Slovenian Fund for Agricultural Land and Forests for purchasing protective forests and forests with a special purpose	2.16	6.4
Co-financing of nursery and seed production	0.04	0.1
Financing of compensations for reduced yields and for forests with a special purpose	0.27	0.8
Financing of planned measures in protective forests and in torrent watersheds of private forests	0.23	0.7
Financing of preventive forest protection	0.87	2.6
Co-financing of restoration in private forests	1.51	4.5
Co-financing of conversion in private forests	0.42	1.3
Co-financing of afforestation after fires and/or restoration of damaged forests	0.24	0.7
Co-financing of tending measures in private forests	2.65	7.9
Co-financing of tending measures in wildlife habitats in private forests	0.13	0.4
Co-financing of fire protection measures in Karst forests	0.13	0.4
Co-financing of protection measures in private forests and of compensations for damage caused by protected animal species	0.32	1.0
Co-financing of construction and maintenance of forest roads	4.49	13.4
Co-financing of developmental research	0.84	2.5
TOTAL	33.69	100.0

Note: Exchange ratio: 1 US \$ = 118.5 SIT (in 1995)

CONCLUSION

On the basis of the adopted FDPS and planned measures stated in forest management plans for the 1991-2000 period about US\$ 37 million (US\$ 34 per hectare) will be required annually for the optimum implementation of forest measures (see Table), that is approximately 0.9 % of the state budget or 0.2 % of GDP of the Republic of Slovenia. This percent is about a fifth of the value of the annual felling. In the year 1996 61 % of the optimum programme has been assured in the state budget. The estimated optimum annual amount should be materialised by the year 2000 at the latest.

REFERENCES

1. Anko, B., 1985a: Ortenburg Forest Ordinance. Forestry Faculty, University of Ljubljana, Ljubljana, 1985, 34 p.
2. Anko, B., 1985b: Forest Ordinance for Carniola. Forestry Faculty, University of Ljubljana, Ljubljana, 1985, 88 p.
3. Ministry of Agriculture, Forestry and Food, 1995: Forest Act. Ljubljana, 47 p., in English.
4. Ministry of Agriculture, Forestry and Food, 1996: Forest Development Programme of Slovenia. Ljubljana, 26. p., in English.

FORESTRY OF UKRAINE: PROBLEMS AND WAYS TO SETTLE THEM

Valery Samoplavsky ¹

Our country - the Ukraine - is situated in the East Europe, its territory is 603,000 square km, it is the second after Russia by territory in the continent. Its territory takes 900 km from North to South and 1300 km from West to East. The most part of its surface is plain which is averagely 174 m over sea level. Territory of the Ukraine has well developed river net and not many marshes and lakes. It has several natural-climatic zones: Polissya, Forest-Steppe, Steppe, Crimea mountains and Ukrainian Carpathians. Climate is temperate continental.

Soils are various. Sandy soils predominate in Polissya, they are grey forest soils and black earth in Forest-Steppe, black earth soils predominate in Steppe.

Forest covers only 14.4% of territory, that is the Ukraine is a country with forest deficit. Total area of forest fund is 10 million ha and 8.6 million ha from it is covered by forest vegetation.

The total stock of Ukrainian forests is estimated to be 1 300 million m³. Forests disseminate very irregularly. The largest forest massifs are on the North - in Polissya and in Ukrainian Carpathians.

Average increment is 4.0 m³/ha and ranges from 5.0 m³ in Carpathians to 2.5 m³ in the steppe. Forests of the Ukraine have mainly ecological (water and other protective, recreational) functions, and that their exploitation value is limited. Last decades forest cultivation is extended, that is afforested area is more than area of fell. As a result, for the last 30 years the surface of forests in the Ukraine has increased by 1.5 million ha, and the wood stock has increased by 600 million cubic m, that is 1.8 times as large.

Forest area is increased at the expense of afforestation of lands which are unfit for agriculture. Coniferous stands cover 45% of total area, including Scots pine (*Pinus silvestris* L.) - 36%. Hardleaved cover 41% of total area, including European oak (*Quercus robur* L.) and common beech (*Fagus sylvatica* L.) - 33%.

There is only 0.2 ha of forest and 25 m³ of the total stock per one inhabitant of the country.

Yearly approximately 13 million of cubic m of wood is harvested in Ukraine, including 45% from main fell, and timber is 70% from it. Taking into attention critical deficit of forest resources, wood and non-wood wastes are widely used in Ukraine. It forms 30% from value of harvested wood.

Present spreading of forests in Ukraine is the result of influence of climatic, geological, soil and, first of all, anthropogenic factors. History of mankind, including the long ago populated territory of Ukraine, was accompanied with forest destruction. In antiquity forest cover of Ukraine was 43%.

Forestry of Ukraine had long and hard development. Forestry as a science and as a practice in Ukraine has appeared in XVIII century. Now foresters of Ukraine have unique experience in

¹Minister of Forestry of Ukraine.

research in practice of forestry in the steppe, amelioration, creation of forest stands on the mobile sands.

Forest management in Ukraine is laid upon government bodies headed by Ministry of Forestry. 260 specialized forest-management enterprises carry out direct forest management.

Two research institutes of forestry and ten research stations, which cover all forest zones of the Ukraine, realize scientific maintenance of the branch activity.

The main directions of forest management are:

- increase of forest covered area up to optimal one for every natural zone;
- conservation of the biodiversity of forest ecosystems;
- increase of forest ecosystems resistance to negative environmental factors: climate change and increasing anthropogenic load, forest fires, diseases and insect pests;
- rational, inexhaustible use of forest in order to satisfy wood demands of the internal market of the country;
- amelioration and forest cultivation in the steppe.

Historically irregular age structure of forests turned out in our country. We distinguish forest stands by age as: young - 47%, middle-aged - 38%, premature - 9%, mature - 6%. Young stands predominate in the Ukraine in result of large-scale afforestation of the area, where stands were felled during the reconstruction after Second World War.

Forest coverage in different natural zones of the Ukraine varies considerably and is not equal to optimal one. The last is such when forests, as the most complicated and the most developed group of vegetation, the most positively influence on climate, soils, conditions of surface discharge forming and provide necessary increment of wood. It was investigated that optimal forest coverage is 19.0% for the whole country, it is 32.0% for Polissya (now it is 26.8%), 18.0% for forest steppe (now it is 13.0%), 9.0% for steppe (now it is 5.3%), 45.0% for the Carpathians (now it is 42.0%) and 19.0% for Crimea (now it is 10.4%).

Moreover, forests in Polissya and the Carpathians have ecological and exploitative functions, but forests in forest steppe, steppe and Crimea carry out preferentially water and soil protective, sanitary-hygienical, recreational and ecological functions.

That is, increase of forest coverage of the Ukraine territory up to the optimal one will allow not only to increase national wood resources, but also to stabilize ecological situation in the region and to mitigate the consequences of the greenhouse effect.

The main task of forest branch is the increase of forest raw material and environment protective potential of forest fund by creation of new forests, mainly, on the lands unfit for agriculture, agricultural afforestation and increase of productivity and protective functions of forests.

Protective afforestation has special meaning in the Ukraine, which has not high forest coverage and developed agriculture and industry. Approximately 5 million ha of lands are under erosion influence, 81% of agricultural lands are arable. It is not surprise that agricultural afforestation in the Ukraine has more than 150-year history.

To diminish influence of erosion on agricultural lands and to increase soil fertility, forests and protective stands are cultivated in large scale on the new lands. Last 30 years 747,400 ha of erosion-protective stands were created on the lands unfit for agriculture. Moreover 440,000 ha of shelterbelts were planted, and they protect more than 13 million ha of arable lands. From approximately 1.4 million ha of created antierosion stands, 150 000 ha are on the banks of the small rivers and reservoirs.

In the regions with evident active water erosion, complex melioration was carried out, particularly building of hydrotechnical constructions. For example, a system of water keeping banks

11 900 km long, 6 300 of water-collective trays and 205,000 of the bottom dams were built in the Kaniv and Norinsk gully and narrow network. Created Kaniv and Norinsk antierosion forest hydrotechnical complexes has high protective effectivity.

Only in the Kaniv complex 1820 ravines are fixed, this gave possibility to protect from erosion more than 22 000 ha of arable lands. More than 9 000 ha of erosion-destroyed lands were returned to agricultural use, annually wood increment on afforested lands is approximately 40 000 m³.

Large-scale works on afforestation of Low-Dnieper (Oleshkivski) sands in Kherson region, where coniferous forests are planted on the 100 000 ha, gave the possibility to stop moving of the sands on the area more than 200 000 ha, to protect dozens of thousands of hectares of agricultural lands from wind erosion, to get thousands of cubic meters of wood.

However, the main benefit for the region economy is the involving decades of thousands hectares of formerly unfit lands into agriculture. Perspective region of grape growing with more than 12 000 ha plantations is here now.

Agricultural afforestation practice proves economical advantages and effectivity of meliorative stands in the soil protection from water and wind erosion. One hectare of shelter-belt in the Ukraine conditions protects 25-30 ha of arable land, and the crop is 15% more than on the unprotected fields.

Forest is one of the main determinant components of natural landscapes. It largely influence on stability of land cover, environment and it is source of energy. In connection with decrease of forest coverage and ploughing up of steppes, natural landscapes have destroyed. Using of chemical means of forest protection from pests and diseases, bringing in mineral fertilizers, air pollution by industry and transport changed for the worse ecological state of environment in the Ukraine. That is why planting of new forests must not only solve the problem of struggle against erosion or other negative phenomena, but the whole problem of protection, restoration and stabilization of natural environment. Forest stands, including shelterbelts, provide oxygen production, clean air from dust and pollutants. Forest shelterbelts and protective stands are ecological niches for fauna, biocorridors for animals migration. System of forest stands creates forest-agrarian landscape, which is universal factor of hydroclimatic components optimisation, which changes not only microclimate between the shelterbelts, but climate in the whole region.

At the same time, intensity of erosion stays considerable and problem of forest-meliorative land protection is not yet solved. In Ukraine there is large area of lands, which are unfit for agriculture and may be afforested (not less than 500 thousand ha). Position of the Ukraine in this question is undoubted - it is acceleration of the protective afforestation works, creation of completed systems of protective stands just in this century.

In the system of Ministry of Forestry of the Ukraine there are continuous observations in the forest stands to gather information about state of forest resources, forest fund dynamic, forest damage by antropogenic, biotic and abiotic factors. This system of observations is based on the principle of ecological monitoring, which includes ground estimation and remote sensing.

Forest monitoring in Ukraine is carrying out since 1989 within the International Cooperative Programme on the Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests), launched under the Convention on Long-range Transboundary Air Pollution by Union Nations Economic Commission for Europe (UN/ECE). Now plots of monitoring are established in 14 from 25 administrative regions.

In Summer of 1995 Ukrainian forests' monitoring has been extended with support of US Forest Health Monitoring Programme (FHM). The programme of monitoring includes discovery of fundamental changes in forest state on the early stages, revealing the causes of it, study the regularities of forest ecosystems development, perfection of forest monitoring methods.

Recently large-scale forest decline is observed in Ukraine as well as in Europe. Existent scientific conceptions does not give exhaustive explanation of present sanitary forest state, decrease of their resistance to unfavourable conditions. However, it is doubtless, that harmful influence of industry and intensive economic activity of man are the leading causes. This is typical for whole Europe, including Ukraine with it's considerable concentration of industrial enterprises and high density of population.

Our forest protection service gives the priority to development and dissemination of biological methods of pests control. They are not harmful for man and environment, can be used in the regions of Ukraine with high people population, where chemical pesticides are forbidden. Laboratory of biotechnology is created in the forest branch and deal with search and production of viral preparations against main forest pests. Need in some of preparations is satisfied now.

Problem of forest protection from fire is one of the complicated ones, which are solving by foresters of the whole Ukraine. Especially it is important in the west and south regions, where, in result of large-scale 40-years afforestation, man-made coniferous plantations grow on hundreds of thousand hectares. Fire danger increases due to high density of people population and sharp growth of recreation.

Revealing and putting out of forest fire is carried out by specialized service which has ground and aviation subdivisions. Ukrainian State Base of Aerial Forest Protection is aviation subdivision. It has 23 sections and groups of descent-firemen, helicopters and aircrafts.

All the world know about tragic consequences of Chernobyl accident for Ukraine. At first, there were people victims. Ukrainian forests were suffered too. Forest stands of Polissya in neighbourhood of accident occupy 40% of all Ukrainian forests, and forestry continues to suffer large losses. Almost 300 000 ha of forests is excluded from use, and it is limited in the rest territory of Polissya.

Besides that, this territory is the reservoir of water collection of one of the largest river of Europe - Dnieper and it's tributary - Pripjat, which are the main sources of water supply in Ukraine. In connection with it, it is important to save the forests healthy, stable, do not allow soil erosion and radionuclids taking out to water horizons.

Forest science of European countries could give some help in study of problems of forests on the radionuclid contaminated territory. Separately on can distinguish a problem of reservation forests. Presently 10.8% of forest fund is reserved in Ukraine. This reflects generally accepted need in such territories. At the same time it is only 2% of territory of the country, and one must not permit growth of reserved territory only at the expense of forests. We think that reserved territories must equally represent all kinds of landscape.

In accordance with Low of the Ukraine "About Animal Kingdom", forest management bodies execute also function of state management of hunting economy of the Ukraine. Objectively our forest and hunting economy are indivisible. Almost all live-stock of elk, more than 70% of deer and up to 30% of wild boar are in the forest, and this stipulates for necessity of complex approach to hunting problems solving. Just in the frame of such complex approach one can successfully solve problems of ensure of forest ecosystems stability and increase of the hunting effectivity. In these conditions just forest management bodies play a part of coordinating centre on development and installation into practice of scientifically grounded, weighted and effective approaches to organization of the hunting.

The Ukraine has not bad potential of hunting fauna. There are up to 660 European bisons, up to 9 000 elks, approximately 22 000 deers, up to 157 000 roes, 47 000 wild boars, more than 2 million hares, more than 9 000 beavers, 21 000 black grouses and wood grouses, 5 million geese and ducks.

Development of international connection, including hunting tourism, is a very perspective direction

of activity of our hunting economies. Respective service of Ministry of Forestry presently deals with this problem.

Development and realization of own forest politics of the Ukraine is based on taking into consideration of real forest maintenance and of the main changes, which take place in the economy, and provides reasonable equilibrium between forest ecosystems protection and continuous, inexhaustible, many-purposed forest use.

Proceeding from new reality, after 1991 we developed Forest Code of Ukraine which was adopted by Parliament in 1994. There is legislatively fixed, that presently all forests are the state property. It is explained, in the first turn, with prolonged growing of forests, advantage of it's ecological meaning as compared with source of wood, necessity to maintain and systematic increase forest riches in the interest of not present but future generations. It is also explained with present lack of lawful and ecological culture of forest use, which turned out last years on the principles of consumer approach to the forest and to the whole nature.

Forest Code of Ukraine corresponds to set task to provide regulation of forest relations in modern social and economical conditions and directed to maintenance, improvement of quality composition and rational use of forests to national interest.

The Ukraine supported and signed the following Resolutions of Strasbourg Ministerial Conference:

- 2 "Conservation of Forest Genetic Resources",
- 3 "Decentralised European Data Bank on Forest Fires",
- 4 "Adapting the Management of Mountain Forests to New Environmental Conditions",
- 6 "European Network for Research into Forest Ecosystems".

Taking into attention economic possibilities of the Ukraine, we saved the right to sign Resolution 1 "European Network of Permanent Sample Plots for Monitoring of Forest Ecosystems" and Resolution 5 "Expansion of the EUROSILVA Network of Research on Tree Physiology".

The Ukraine has also signed all four Resolutions of the Second Ministerial Conference on the Protection of Forests in Europe:

- 1 "General Guidelines for the Sustainable Management of Forests in Europe";**
- 2 "General Guidelines for the Conservation of the Biodiversity of European Forests";**
- 3 "Forestry Cooperation with Countries with Economies in Transition";**
- 4 "Strategies for a Process of Long-term Adaptation of Forests in Europe to Climate Change".**

The Ukraine supports the main idea of XI World Forest Congress, which shows considerable role of forests and forestry for continuous development of human society on the boundary of new century. We are ready to take part in the joint with other countries efforts on maintain and increase of forests. We are also interested to study experience of other countries in this branch, and we hope, that specialists of other countries will uncover something useful for them in the experience of Ukrainian foresters.

VIETNAM'S FORESTRY ON THE THRESHOLD OF THE XXI CENTURY

By Mr.Nguyen Van Dang¹

1. A BRIEF INTRODUCTION TO VIETNAM

Vietnam covers over 33 million hectares and stretches for about 1,600 kilometres in the north-south direction. Two thirds of the country territory are mountainous with a large portion of steep slopes. The population is over 70.5 million (1995), 87 % of which are ethnic Vietnamese and the remainder belongs to 53 minority groups. It is estimated that there are about 94 million inhabitants, a large portion of which belongs to ethnic minorities, live in or in the immediate neighbourhood of forests and depend on forests and forest land for maintaining livelihood. At an estimated GNP per capita of US\$ 210 per year, Vietnam is a poor country with relatively high rate of literacy of the population and a rather well developed education and health service.

The process of economic liberalisation, widely known as *doi moi*, was initiated in 1985. The key element of this reform is the transition from centrally-directed to the market-oriented economy. It produces great changes in all sectors of the economy including forestry.

2. FORESTS AND FOREST LANDS

About 19 million hectares of the land area of Vietnam, corresponding to some 58% of the country, are classified as forest land. Half of that area, 9.3 million hectares or 98% of the total land area, still bears forests while the remainder is bare land. The total volume of standing stemwood in these forests is around 595 million M³, indicating an average 56 M³ per hectare. Seen in another perspective, there is an area of forest corresponding to 1.500 M² with 10 M³ of wood for each Vietnamese. In addition, forests also contain large amounts of bamboo and other non-wood products.

The recent discovery of 3 new mammal species, namely *Pseudorix nghetinhensis* (ox or saola), *Megamuntiacus vuquangensis* (giant muntjac) and *Caninmuntiacus truongsongensis*, has made headlines in the world's press. It demonstrates that Vietnam's forests, as a hot spot of the global biodiversity, are home to many rare and precious species.

Forest land in Vietnam is presently classified into 3 categories: special-use forests (protected area), protection forests and production forests. In each of these categories, forests actually cover only a part of the area, as illustrated in the table below (million hectare):

Forest classes	With forest cover	Without forest cover	Total
Special-use forest	0.7	0	~0.9
Protection forest	~ 4	3.3	5.7
Production forest	6.2	6.9	10.4
Total:	9.3	9.7	19.0

¹ Vice-Minister of Agriculture and Rural Development. The Socialist Republic of Vietnam

The forest cover mainly consists of mixed natural stands of varying density and value. Plantation covers about 1 million hectares, mainly of pines, eucalyptus, acacias, casuarina and a large range of native species.

3. DEFORESTATION: CAUSES AND EFFECTS

Vietnam has lost about 5 million hectares of forest during the last 5 decades. Despite reforestation efforts, net deforestation in Vietnam is still estimated to be occurring at the rate of over 100,000 hectares annually. Root causes behind deforestation are rural poverty indicated by the fact that income per capita in many highland areas is below 100 US\$/year. Another cause of deforestation is found in insufficient arable land with the overall population density of 200 persons/km² while cultivated land available per person is only 0.01 hectare. The scarcity of farming land has led to agricultural **encroachment** from lowland onto the hills and shifting cultivation practices. In addition, limited institutional capacity, lack of legal framework and clearly defined holdership of forests also contributes to the deterioration of forest resources.

The major effects of deforestation have been found in soil erosion and reduced water conservation capacity, accelerated fuelwood shortage. Severe deterioration of natural resources leads to intensified flash floods in mountain areas and typhoon along the coastal lines as well as declined or stagnated standards of living in rural communities, forcing people to relocate to other areas, particularly to central highlands.

4. FOREST SECTOR DEVELOPMENT TARGETS TOWARDS THE YEAR 2000

The Government policy priorities and development objectives in the forestry sector have been translated into ambitious targets for the proper management of around 19 million hectares of forest land in Vietnam to the end of the century. The final goal is to increase the existing 9.3 million hectares of forest cover (98% of the total land area) to 13.9 million hectares (40% of the total land area) by the year 2000. Forest sector targets to the year 2000 includes:

Establishing of 6 million hectares of Protection Forests to conserve soil water plants and animals.

Designating 3 million hectares as Special-Use Forests to preserve biodiversity enhance research and promote ecotourism.

Developing 9.6 million hectares as Production Forests primarily for commercial exploitation comprising 4.6 million hectares of forested land (existing natural forests) and 5 million hectares of new forests on degraded or barren forest land, of which 2 million hectares is to be rehabilitated by fostering natural regeneration, 2 million hectares by reforestation and 1 million hectares by agro-forestry.

Involving 1 million small households (2 million labourers) in agro-forestry practice with permanent integrated land-use.

Accelerating scattered tree planting in home gardens and local environs by small holders and local communities.

5. TROPICAL FORESTRY ACTION PROGRAMME AND POST-UNCED FORESTRY DEVELOPMENT IN VIETNAM

With the assistance of UNDP/FAO and a large number of foreign donors, a Forestry Sector Review or the formulation of the TFAP was carried out in Vietnam between 1989 and 1991. This exercise has enhanced the further development of Vietnam Forestry in the following directions:

Toward sustainability in the Forestry Sector

Faster allocation of forest land to farmers local people are seen as the driving force in forestry development

Formulation of locally centred and geologically focused programmes and projects under the National Reforestation Programme 327 (an amount of 40 million US\$ from the state budget is annually spent on reforestation).

Forestry becoming integrated with a multi-sectoral approach especially in following the merging/ ?g of three previously independent ministries namely Ministry of Agriculture and Food Industry Ministry of Forestry and Ministry of Water Resources into the Ministry of Agriculture and Rural Development.

6. THE GOVERNMENT'S PROPOSAL ON CLOSING NATURAL FORESTS TO EXPLOITATION

This Proposal represents a package of comprehensive socio-economic and technical solutions towards closing up natural forests while accelerating, reforestation of open land and, as a result, ensuring short-term and long-term environmental and social security. It testifies the commitment of the Government and people of Vietnam to respond to the Agenda XXI adopted at UNCED 1999. The immediate objectives of the Project are:

Consolidating protection function of forests through stricter protection of the existing 9.3 million hectares of forests , establishment of ~ million hectares of near forests by means of natural regeneration and new plantation and thus increase forest coverage to 43%.

Contributing to creation of job opportunities and income generation and thereby improve living conditions of 24 million people distributed in and around forests. Farmers will be mobilised in protection and development of protection and special-use forests. Support will be given to farmers to establish 3 million hectares of commercial forests to generate an income of 1 - 1.5 billion US\$ per annum providing an average forest-based earning of 70 - 100 US\$ per uplander and 350 - 500 US\$ per household. In this direction, forestry will significantly contribute to hunger eradication and poverty reduction for mountain dwellers.

Meet the fuelwood demand from the population and stop by step replace fuelwood consumption by alternative sources of energy.

The major activities to achieve the objectives are:

Radical and permanent ban on forest products collection from protected areas restriction of timber and non-wood forest products harvesting carried out in crucial watersheds within 30 years.

Prohibition of commercial logging in all natural forests remained in highland and midland of the north of the Northern Vietnam South-east of the South Mekong Delta and Red River Delta.

Restricted logging is allowed in the forests that are not attributed to special-use sites very crucial and crucial watersheds in the Central Highland Central Coastal Area.

From the year 2000 the logging volume will be cut down to 300, 000 M3/year. The logging sites cut volumes and cutting rates are subject to approval by the Minister of Agriculture and Rural Development.

7. STRENGTHENING THE COORDINATION OF INTERNATIONAL ASSISTANCE TO VIETNAM'S FORESTRY

Vietnam's TFAP has got an encouraging response from the international community. Of great significance for forestry development in Vietnam is the assistance provided to the sector by UNDP, FAO, WFP, WB, ADB, WWF, EU, etc. as well as bilateral donors including Sweden, Germany, the Netherlands, Japan, Finland, etc.

Under the auspices of the Swedish-supported Project *Renovation of Strategies for Forestry Development*, an International Support Group with representatives of the key Vietnamese agencies responsible for the use of forest resource in the country as well as of the major international and national organisations interested in supporting the sector has become operational. The Core International Support Group, with relatively few members, drawn from the ISG Plenary, has been formed to prepare agenda for ISG Plenary.

Within the scope of the Consultative Group, a number of technical groups have also been set up, namely:

TWGI: Land Allocation, Land Use Planning, and Social Forestry

TWG2: Development of Extension System + Rural Financial System

TWG3: Flow of Fund in Loan Projects and Disbursement Issues . Organisational and Institutional Capacity Development

TWG4: Data Base on International Cooperation Projects in the field of Agriculture and Integrated Rural Development.

These groups provide forums for sharing knowledge, exchange of information, and cooperation between projects and institutions related to the broad sector of agriculture as well as to forestry in particular.

8. CONCLUSION

In recent years, along with the radical economic reform, Vietnam's Forestry has gained significant progress following the direction of social forestry development with the local people as the driving force.

In line with the open-door policy, the Government of Vietnam is looking forward to receiving the cooperation and assistance from the international community to preserve and develop the forest resource of Vietnam, a part of the world's tropical forest heritage.