Annex 1

RA Governmental Decision N1232Ն, July, 2005

NATIONAL FOREST PROGRAM OF THE REPUBLIC OF ARMENIA

I. GENERAL PROVISIONS

The protection of environmental components in the Republic of Armenia (RA) is a crucial issue for the prevention of general processes of natural resources ongoing degradation, biodiversity loss and desertification.

Forests have special significance among natural resources as an important component of natural heritage. They have an exclusive strategic significance from environmental and social-economic points of view, as well as in terms of ensuring national security. However, due to negative impact and overexploitation forest ecosystems are severely jeopardized at present.

According to 1993 inventory data the State Forest Fund of Armenia comprises 11,2% of the country territory, which is about 460 thousand ha, out of which 334,1 thousand ha are forested areas including about 50 thousand ha artificial forests (these data do not express changes occurred in the Forest Fund afterwards).

Mountainous forests of Armenia have expressed soil-protective, water-protective and climate regulating significance, as well as social-economic and scientific high value and rich biodiversity.

By significance forests of Armenia are classified as:

a) Forests of protection significance (257 thousand ha);

b) Forests of social significance (106 thousand ha);

c) Forests of special significance (96 thousand ha).

At present about 70% of natural forests of Armenia are destroyed and aged, significant wood resources are concentrated in relatively inaccessible mature and overmature forests, where many types of forest use are not possible due to ragged relief and inaccessibility.

Irregular cuttings and the lack of forest protection measures resulted in the change of climatic conditions in the forests, as well as the increase of fire risk (high temperature, abundant light, branches and leaves due to cuttings).

They created favorable conditions for massive reproduction of harmful insects and diseases, as well as for stands getting dry and conditions risky for fires.

Pests and diseases, overgrazing, storms and draughts are also among the factors causing forest resource degradation in Armenia.

Taking into account the above mentioned the implementation of forest rehabilitation activities is a priority issue, particularly rehabilitation of clear-cut and partly logged forest areas as well as stimulation of afforestation activities to optimize the current low level of the forest cover in the Republic.

National Forest Program of Armenia will significantly promote sustainable forest management, namely guarding, protection and use, as well as the increase of economic, social and environmental role of the forests.

II. AIM AND OBJECTIVES

1. The main aim of the National Forest Program of RA is to guard forest ecosystems, rehabilitate degraded forest ecosystems, use forest resources in a continuous and efficient manner and ensure sustainable forest management strategy.
2. The objectives of the National Forest Program of RA are as follows:
    a) Plan and implement activities aimed at sustainable management of forests and forest lands in line with the National Forest Policy and Strategy of RA;
    b) Promote the development of state, community and other types of ownership;
    c) Stimulate cooperation at national and international levels;
    d) Support the involvement of internal and external investments:
    e) Implement measures promoting sustainable forest management in compliance with international treaties of RA.

III. NATIONAL FOREST PROGRAM MEASURES SYSTEM

1. Development and Improvement of Forest Legal Framework

The Forest Code of RA being based on the Soviet time Forest Code ideology does not cover existing social-economic relations established in the country under market economy conditions, different forms of land ownership, as well as does not ensure clear split of the sector management bodies functions, public participation in relevant processes of decision-making in the field, does not fully meet the requirements of international conventions and treaties ratified by RA, contradicts other legal acts of RA regulating forest relations.

The lack of sub-legislative acts is a serious obstacle for the Code enforcement and sustainable forest management.

There is a necessity of new Forest Code which will regulate a number of important issues:

a) Different forms of ownership - state, community, legal and physical persons;
b) Regulation mechanisms related to different forms of ownership;
c) New forest classification by significance;
d) New mechanisms aimed at sustainable forest management regulating economic, environmental and social forest issues – accredited management, leasing, free use, auction, tender and others;
e) Clear split of functions in the management system;
f) Expansion of forested areas, biodiversity protection, ecotourism, recreation and others;
g) Ensuring participation of the public in decision making related to forest sector.

After the adoption of the new Forest Code of RA in order to ensure its complete enforcement it will be necessary to adjust legal acts regulating forest relations acts according to Annex 3.

The timetable of National Forest Program measures needed for the improvement of legal framework is presented in Annex 2 Item 1.

2. Institutional Issues of Forest Sector Management

The Ministry of Agriculture (MoA) of RA is a state management body authorized by the Government of RA in the field of guarding, protection, reproduction and use of state forests (RA Governmental decision N7-N,

15 January 2004); it implements its authorities through “Hayantar” State Non-Commercial Organization and Forest Enterprises. By the same decision the Ministry of Nature Protection (MoNP) is vested with functions of state control and management of specially protected forest areas.

During 1992-2003 a number of subdivisions in the structure of “Hayantar” State Closed Joint Stock Company were liquidated including forest amelioration station, forest seed station, forest protection and forest research-experimental stations. The activities of the mentioned subdivisions were aimed at implementation of afforestation, forest rehabilitation and forest protection measures, as well as increase of their efficiency.

At present fire control and forest protection centralized services are not functioning due to the lack of financial resources and retrained personnel; the systems of forest monitoring, forest state stock-taking and forest state cadastre maintenance, forest extension service and other needed structures are missing.

The mentioned institutional changes, lack of services, liquidation of subdivisions, under-financing and numerous other reasons of social-economic nature had a negative impact on the forest management system efficiency.

At present the solution of complex and multifaceted problems faced by the forest sector requires serious reforms in the forest management system. The transition to market economy is not possible without these reforms.

Institutional changes in the forest sector management system are presented in Annex 2 Item 2.

3. Forest Management Planning (FMP)

Sustainable forest management should be based on rational and efficient planning systems of forest resources. In the past there were three main levels dealing with forest management planning:

a) Long-term development planning of forest economy (for 15 and more years);

b) Planning of running forest economy through forest management plans (10 years);

c) Current (annual) planning.

The above mentioned planning systems had both positive and negative sides.

The complex measures aimed at sustainable forest management should be implemented as:

a) Perspective development strategic forest planning (once in ten-year period);

b) Tactical forest planning (once in five-year period);

c) Annual operative forest planning.

In order to indicate strategic steps aimed at sustainable use and reproduction of forest resources it is necessary to address the following problems:

1) Optimal proportions of forested and non-forested lands and their spatial distribution;

2) The role of forests in long-term development perspective of rural and town settlements;

3) Scientific grounds for classification criteria of forests by significance categories considering as well the development perspective of the country;

4) Selection of main species by zonation on dendrological regions for the purposes of afforestation and reforestation;

5) Stand structure more expedient from economic point of view and development of fundamentals for forest biodiversity conservation in stands;

6) Main directions of the forest economy development;

7) Optimal sizes of annual allowable cutting areas for the purpose of sustainable use of forest resources;
8) Economic grounds for complex measures linked with forest resources reproduction;
9) Separation and protection of forest biodiversity and key biotops;
10) Measures aimed at improvement of the forest functions on soil protection, water protection and regulation of climate.

Measures needed to implement in the sphere of forest management planning are presented in Annex 2 Item 3.

4. Forest State Stock-Taking, Forest State Cadastre and Forest State Monitoring

Forest sector development is tied with efficiently functioning systems of forest state stock-taking and state forest cadastre.

Forest state stock-taking is regular registration of forest fund quantitative and qualitative parameters and their changes in forests and forest lands in the process of running forest economy.

Forest state stock-taking in Armenia has not been implemented during recent more than ten years. At present accurate data on the state of forests and changes occurred are absent, for example, the percentage of forest cover in the republic.

The state of forest state stock-taking, forest state cadastre maintenance and monitoring system was conditioned by the lack of needed financial resources as well as by limited human resources and technical capacities.

Modern forest stock-taking systems are based on remote sensing and direct field forest assessment measurement methods implemented within a network of permanent and temporary sample plots, while the previous system was mainly based on indoor analysis of forest management plans data. As forest management planning used to be carried out once in 10 year period and forest stock-taking – once in 5 year period it is clear that quick changes currently occurring in forests require more frequent forest stock-taking.

If financial resources are available in addition to forest stock-taking activities implemented once in 5 year period it is worthwhile to assess changes of forest lands and timber volumes through current annual stock-taking.

The lack of forest state stock-taking causes serious constraints for the perspective development of forest sector, as well as for the fulfillment of obligations of RA by international treaties. Forest state cadastre system is missing. It should include reliable data on location and sizes of forest areas, their economic assessment and others.

The absence of the forest state monitoring system hampers the study of the state of forests and forecasting of future developments for the purpose of sustainable forest management.

Measures needed to implement in the sphere of forest state stock-taking, forest state cadastre and forest state monitoring are presented in Annex 2 Item 4.

5. Forest Guarding

Illegal Logging Mitigation

During recent years illegal logging became one of the main causes hampering forest economy development; it is driven by high level of poverty as well as done for commercial purposes. The current level of illegal logging exceeds legally accepted harvest volumes by more than 10 times. Illegal Logging Action Plan was approved by the Government of RA (protocol decision N38, 30.09.2004); it is envisaged for implementation over coming 6 years:

1) Increasing public awareness (Armenian Dram (AMD) equal to 1.1 million USD);
2) Alleviating rural poverty (AMD equal to 8.2 million USD);
3) Community forestry programs (AMD equal to 11 million USD);
4) Alternative fuel supplies (AMD equal to 5 million USD);
5) Increasing supply of legitimate wood products (AMD equal to 19.5 million USD);
6) Restructuring forest institutions, human resource development and technical capacity building (AMD equal to 5 million USD);
7) Capacity building of monitoring and control systems (AMD equal to 5 million USD);
8) Forest Certification (AMD equal to 0.22 million USD).

1. The objective of increasing public awareness is to raise awareness so that stakeholders understand the basic principles of sustainable forest production and the damage that illegal harvesting causes both to the environment and society, know about other measures directed to the mitigation of illegal logging and alternative fuel sources available as well as find illegal logging as socially unacceptable with resultant behavioral changes.
2. The objective of alleviating rural poverty is to reduce rural poverty in villages within 10 Km of forest to an extent when the dependence on unauthorized and uncontrolled logging of firewood from forests will be reduced significantly. It became clear from the surveys that the majority of illegal logging is driven by poverty and other related problems such as rural employment. For the provision of alternative livelihood there is a real need for rural investments. It can be done through income generating any measure such as processing agricultural and forest production, tourism, small industries, etc.
3. Community forestry programs aim to slow forest degradation. The best opportunity for that may also rest with the people who reside close to the forest and who use the forest as a source of fuel and livelihood.
4. Alternative fuel supply is seen as one of the most important ways to mitigate illegal logging. The current cost of gas in terms of heating equivalence is less than the price of purchased firewood. However, for poor rural households the choice is clear – it is cheaper to take firewood for nothing than pay for gas even if it is cheap. The only associated cost is the cost of the labor to cut and haul the firewood home.

   Alternative fuel supply includes the increase of natural gas supply to rural households, use of solar collectors, biogas production as well as improvement of energy efficiency in rural households.
5. Increasing supply of wood products from legitimate harvesting is connected with the production increase by forest enterprises when more firewood will be brought into market. The problem is seen in two dimensions – in areas close to communities and those located far from communities. For the first case, it can create additional employment opportunities for rural population, which in its turn will result in the reduction of poverty and dependence on illegal firewood. In the second case, the additional firewood can be sold to traders to be transported to non-forested town settlements thus decreasing the demand for illegally harvested wood products. Some quantity of firewood can be sold to communities at lower price, which will result in the increase of solvency and decrease of illegal supply.
6. There is a need for strong forest institutions for implementation of the action plan aimed at sustainable forest management and illegal logging mitigation which can ensure sustainable forest management and promote community forest management.

7. Component of monitoring and control is based on the fact that at present the monitoring and verification system is not working properly. There is a lack of resources in terms of staff number and equipment; in addition, staff is inadequately paid. Consequently, the aim of this component is to set up an operating and transparent monitoring system for the forest sector, which will provide with reliable forest sector statistics, prevent timber theft, fraud and evasion of paying for timber, and will act as a deterrent for illegal logging.
8. Forest certification will provide an opportunity to improve sustainable forest management, which means that forest managers are aware of infringements in their forest. It requires a chain of custody and encourages consumers to buy wood from certified sources thereby reducing the demand for illegally produced wood products. It is of particular value when marketing timber products to higher value export markets.

In order to tackle illegal logging except from the above-mentioned strategic directions it is necessary to mention the improvement of legal framework, which in one hand will prevent possible illegal loggings and on the other hand will support the detection of illegal logging.

Forest Guarding Against Fires and Infringements

Forest guarding against fires and infringements (grazing, land occupation and others) is one of the basic functions implemented by forest enterprises. It is necessary to establish a management system, which will efficiently guard forests from fires and infringements. For efficient forest guarding there is a need for a functioning system with the tasks as follows:

1) Prevent human-driven fires through anti-fire propaganda and public awareness raising;
2) Improve the level of efficient identification of fire by increasing fire control observations with special focus on fire-prune forested areas;
3) Strengthen anti-fire material-technical base of forest enterprises;
4) Coordinate anti-fire activities with regional governing and local self-governing bodies;
5) Prevent illegal grazing, land occupations and other infringements by involving all stakeholders.

Measures needed to implement in the field of forest guarding are presented in Annex 2 Item 5.

6. Forest Protection

Complex natural-climatic conditions and economic activity create favorable conditions for increase of sources of pests and diseases, thus disturbing the balance in forest ecosystems and bringing about loss of biological sustainability of stands and degradation of forest areas.

In order to protect forests from pests and diseases there is a need for a functioning system with the tasks as follows:

1) Improve forest protection system, strengthen material-technical base and adopt required legal acts;
2) Improve the level of efficient identification and diagnosis of pathological factors in forests through forest-pathological monitoring with application of overground and remote sensing methods;
3) Establish and efficiently use a data base on dissemination of forest pests and diseases;

4) Implement methods of active fight against forest pests and diseases in an integrated way by applying methods harmless for flora and fauna;
5) Prevent further expansion of forest areas damaged due to production emissions, waste and other negative impacts.

Activities needed to implement in the field of forest protection are presented in Annex 2 Item 6.

7. Reforestation and Afforestation

During the development of climate change mitigation strategy studies on the optimal forest cover of RA were carried out considering the following factors:

1) Natural-climatic peculiarities and state of soil cover;
2) Required level of forest cover in watersheds;
3) Required level of soil protection and water regulation forest belts;
4) Population density, level and nature of air pollution;
5) Required level of surrounding forest cover for urban population – forested area per capita;
6) Recreational capacities of forests located close to towns and the frequency of visits.

It was calculated that the optimal forest cover in the republic will reach 20.1%, if the forested areas are expanded by 266.5 thousand ha.

Taking into account that there are numerous eroded areas in the republic (one third of the total), out of which more than 60% are out of economic use due to severe erosion, while calculating the optimal forest cover the priority was given to erosion mitigation on mountain slopes and possibilities to return to economic use the areas which became unsuitable for agricultural use through improvement of forests.

The aim of reforestation and afforestation activities is to protect and enlarge forested areas by preventing erosion, unfavorable changes of species composition and others. It is necessary in the possible short timeframe to ensure the establishment of young stands in areas logged during the energetic crisis and consequent years. Reforestation and afforestation should be carried out by scientifically proven methods considering proper forest species composition, forest growing conditions and applying modern technologies.

To increase the efficiency of reforestation and afforestation activities it is necessary to:

1) Introduce reforestation monitoring system to assess objectively and forecast the dynamics and quality of reforestation;
2) Reduce the losses of natural forest regeneration and young forest cultures due to insufficient agrotechnical measures, grazing, forest fires and other reasons;
3) Introduce modern technical means and technologies to improve the efficiency of reforestation and afforestation activities;
4) Shift to technologies based on a new principle of continuity - “Logging – Reforestation – Forest Growing” according to specific forest growing conditions and environmental functions of forest;
5) Apply mechanisms of economic incentives to protect young growth and soil in logging areas during implementation of forest economic activities and to clean logging areas;
6) Improve the quality of reforestation activities by applying new economic methods meanwhile taking into consideration additional economic incomes conditioned by environmental aspects of forest areas to be newly established;
7) Improve legal base of reforestation.

It is necessary to rehabilitate and develop seed stations and nurseries based on the scales and needs of reforestation and afforestation activities. There is a need of measures on checking and improvement of forest seed quality including those on their protection from pests and diseases.

Nurseries should be based on new technologies and mechanization of activities, thus improving tree-bush species composition and decreasing the primary cost of unit seedling. In nurseries it is necessary to use high quality seeds obtained from permanent elite forest-seed plantations as well as to implement forest seed selection activities.

For efficient reforestation and afforestation in the republic it is important as well to carry out activities aimed at forest productivity improvement, as the current level of forest productivity does not match with potential conditions of forest growing and is quite low.

Forest productivity can be improved by extensive method -increase of forest resources through extension of forested areas and intensive method -increase of forest resources through increase of annual wood growth per unit of area.

In order to improve productivity it is necessary to optimize the crown coverage of forests, support natural rehabilitation, improve forest species composition by proper and timely cuttings (forest regeneration cuttings, transitional cuttings and others), as well as by protecting forest biodiversity and supporting the development of environmental properties of forests.

Measures needed to implement in the field of reforestation and afforestation are presented in Annex 2 Item 7.

8. Forest Use

During recent years unsustainable forest use in the republic caused severe damage to forests of Armenia simultaneously having negative impact on other fields of running forest economy. Due to energetic and economic crisis the demand for wood, including firewood increased drastically which is mainly driven by poor social situation of population. Loggings are mainly carried out in forested areas adjacent to settlements resulting in the increase of their vulnerability.

On the other hand during commercially driven loggings forest species most valuable from economic point of view are harvested for getting timber thus threatening commodity-quality features of forests.

Current non-systematic forest use exceeds total annual growth of forests, thus having negative impact on loss of forest productivity and resulting in forest degradation.

In order to improve the efficiency of forest use from economic, environmental and social perspectives it is necessary to rely on sustainable forest management principles and criteria through clearly distinguishing forests by their purpose-oriented significance.

Rich forest biodiversity of Armenia provides wide opportunities for use of non-wood forest products. Collection, processing and selling of numerous medicinal plants, berries, wild fruits, mushroom and other non-wood forest products as well as bee-keeping can ensure significant income not only to forest enterprises, but also to rural residents, thus improving their social situation, creating employment opportunities and mitigating pressure on forests from use of wood.

Implementation of measures aimed at the development of recreational capacities of forests, tourism and hunting enterprises as well as development and implementation of the mechanisms of effective agricultural land use in non-forested areas are among non-wood forest product use priorities in RA.

It is necessary to provide conditions for development of small and medium size enterprises in communities close to forests, as well as to stimulate investments from internal and external sources.

Measures needed to implement in the field of forest use are presented in Annex 2 Item 8.

9. Forest Certification

Forest certification balances environmental, social and economic aspects of forest management as well as establishes ties between consumers and sustainable forest management.

Forest certification as a market tool supports ruling out unknown and suspicious sources of wood and will have the following positive impact:

a) Development and use of national forest certification standard will stimulate sustainable forest management of state and non-state forests;

b) It will provide wide opportunities and favorable competitive conditions for local certified forest products to be sold in external markets;

c) It will prevent and mitigate illegal loggings, as well as mitigate the scale of shadow forest use;

d) It will support efficient protection of biodiversity;

e) It will stimulate public participation in sustainable forest management thus providing the publicity of decision-making;

f) It will ensure safe and secure working conditions and social guarantees for forest sector staff.

Measures needed to implement in the field of forest certification are presented in Annex 2 Item 9.

10. Financial-Economic Field

Hard financial-economic situation in the forest sector is conditioned by the policy undertaken during recent decades when allocations from the state budget over years remained at the same level (about 100 million dram), while main revenues came from own incomes, mainly from wood selling (80-90%). Therefore during recent years there were no investments in the forest sector, while the existing material-technical base worn out morally and physically.

Financial-economic policy implemented during recent years resulted in a number of serious problems:

a) Scarcity of material-technical and financial resources needed for forest sector development;

b) Hard financial situation in forest enterprises;

c) Delayed allocations of financial resources annually;

d) Outdated accounting system;

e) Low level of market relations;

f) Lack of forest management plans and inefficient planning;

g) Inefficient use of international financial mechanisms;

h) Inefficient use of forest resources and big losses;

i) Large scales of shadow use of forest resources and others.

Measures needed to implement in the financial-economic field are presented in Annex 2 Item 10.

11. Environmental Issues of Forest Sector

Biodiversity Protection

Geographical location and complex mountainous relief of Armenia supported the formation of rich biodiversity, high level of endemism and rich agrobiodiversity.

The need for protection and sustainable use of forest biodiversity is conditioned by the importance environmental functions of forest ecosystems, including the followings:

a) Carbon dioxide absorption and climate regulation;
b) Prevention of land erosion and desertification;
c) Water balance regulation;
d) Supply of genetic material;
e) Provision of recreational services;
f) Improvement of sanitary-hygienic situation of the environment and others.

Main factors endangering forest biodiversity are linked directly or indirectly with human economic activity, which are as follows:

a) Fragmentation and loss of habitats particularly due to use of forest lands for agricultural purpose and mineral resources exploitation;
b) Overgrazing;
c) Non-sustainable forest management including illegal loggings;
d) Overuse of wood and non-wood forest products;
e) Introduction of alien species;
f) Construction of roads and hydropower stations, unregulated recreational activity, etc.;
g) Environmental pollution.

All mentioned factors cause forest ecosystem degradation and loss of biodiversity.

Climate Change

In 1993 RA ratified the UN Framework Convention on Climate Change aimed at attracting human attention at a global problem of climate change.

Forests absorb and preserve carbon dioxide from the atmosphere. However, increase of use of mineral fuel on the one hand and reduction of forested areas on the other hand result in increase of atmospheric carbon dioxide. Main problems in terms of climate change are as follows:

a) Possible vulnerability and adaptability change of forest ecosystems, as well as the lack of measures aimed at prevention of mentioned processes;
b) Loss of general forest biomass and resources;
c) Insufficient involvement of forest sector in global measures aimed at mitigation of climate change.

Soil and Water Protection

Non-sustainable use of forests, use of forest lands for agriculture, cattle-breeding, industry and other purposes speeds up and aggravates erosion, sedimentation and euthrophication processes in forest rivers and reservoirs, thus disturbing hydrological balance of forests and promoting degradation of water ecosystems.

Among problems causing soil degradation and desertification are unsustainable agricultural activity, overgrazing, deforestation and forest degradation, though the last two mentioned are mostly related to forest sector.

Overgrazing results in reduction of hay-land and pasture vegetation, as well as natural forest regeneration, soils getting more compact, increase of soil vulnerability in terms of erosion.

The reasons for deforestation and forest degradation are overlogging, transformation of forests into secondary pastures, uncontrolled forest fires, transformation of purpose-oriented significance of forest lands.

Activities needed to implement in the field of environmental aspects of forest sector are presented in Annex 2 Item 11.

12. Social Aspects of Forest Sector

Forests in the Republic of Armenia are mainly of nature protection significance and in the past they had no vital role in the social-economic life of the republic, except communities located close to forests; their quantity amounts to 230 in the republic. For communities located close to forests the latter has always had vital significance and has been mainly used for recreation, as source of additional income, as sustainable source of non-wood forest products (NWFP) and fodder supply, means to protect community water resources, as fuel and others.

Before 1990 communities used small scales of wood mainly to meet domestic needs. However, after 1990 wood has been used for meeting own needs (as firewood) and commercial purposes.

Recreational role of forest and its significance for tourism development are also important; they can promote the improvement of social situation of population and reduction of pressure on forests.

Social-economic problems in the forest sector are as follows:

1) Unemployment and poverty in communities;
2) Strong dependence of communities on forest resources (wood, NWFPs, grazing, hay-making and others);
3) Non-affordability of energetic resources;
4) Firewood as affordable source of livelihood for broad sections of rural and urban population;
5) Poor condition of roads, communications and others;
6) Low level of public and stakeholder communities participation in sustainable forest management (lack or imperfect involvement mechanisms);
7) Low level of public awareness about forest sector;
8) Reduction of municipal forest-parks and green areas;
9) Insufficient salaries of forest staff;
10) Insufficient system of work assessment and stimulation;
11) Poor working conditions and low level of work safety;
12) Lack of young forest specialists in the sector.

Measures needed to implement in the field of social aspects of forest sector are presented in Annex 2 Item 12.

13. Forest Science

The development of sustainable forest management is not possible without forest science development. For the solution of a number of problems in the forestrsector and in the result of efficient international cooperation some priority directions appeared which have not been investigated or have been investigated insufficiently in the past. For the development of forest science it is necessary to:

1) Indicate perspective directions of forest sector development and carry out thematic studies, among others taking as a basis international treaties ratified by the country, as well as the outcomes of thematic expert works and completed studies;

2) Coordinate studies being carried out in forest sector through implementation of complex forest scientific programs;
3) Stimulate the establishment of model research-experimental forests in different natural-climatic regions of the republic for the purpose of introduction of new technologies and advanced practice in running forest economy;
4) Stimulate the introduction of new computer-based methods, programs and models in forest management system;
5) Improve material-technical base of forest scientific-research organizations;
6) Expand traditional scope of forestry scientific studies by including economic, environmental and social aspects;
7) Carry out activities on forest scientific topics of international and global significance.

Measures needed to implement in the field of forest science are presented in Annex 2 Item 13.

14. Forestry Education, Training and Awareness

Education and Training

Surveys on human resource in the forest sector of RA show that there is a lack of qualified specialists. During 1950-1990 higher forestry education in Armenia was missing. At present some educational institutions (Armenian Agricultural Academy, Ijevan branch of Yerevan State University) educate forestry specialists.

In Armenia there are no educational institutions for training of middle-level forestry specialists (forest technician) and for providing specialist-technical training in forest operations. There is a severe lack of qualified specialists in the forest sector management system (specialists do not exceed 4% of total staff).

The following factors hamper the development of educational and training system of the sector:

1) Lack of scientific-pedagogical staff having high qualification in specific subjects;
2) Scarcity of text-books and educational-methodical manuals;
3) Absence of laboratory equipment and instruments;
4) Absence of training in commercial aspects of forest use;
5) Lack of practical training and field training centers;
6) Insufficient number of state scholarships for students and imperfect mechanisms in provision of employment in forest sector;
7) Lack of training programs and possibilities for continuous retraining and qualification improvement for specialists.

Awareness

Surveys showed that the public awareness about the role of forests and its significance is quite high, though there is a need to make the general public aware about environmental and social-economic consequences of forest loss.

The awareness about legal aspects of forest management problems is low and the general public is almost unaware about legal acts regulating the field.

It is also important to ensure information access and transparency of forest management system functioning.

Measures needed to implement in the field of forest education, training and awareness are presented in Annex 2 Items 14 and 15.

15. International Cooperation

The solution of a number of global problems requires active participation of all nations. Sustainable forest management is the aim of international cooperation in the field of forestry.

The objectives of international cooperation in the field of forestry are as follows:

1. Stimulate the activities based on forest principles and requirements of international Convention on Biodiversity, Convention on Climate Change and Convention to Combat Desertification;
2. Improve the efficiency of international scientific-technical cooperation in the field of forestry by indicating perspective directions;
3. Expand the scope of forest programs being jointly implemented thus integrating and coordinating possibilities available from international sources;
4. Support introduction of new technologies in forest sector;
5. Stimulate opportunities for the export of processed forest products by initiating forest certification processes in the country;
6. Facilitate experience exchange between Armenian and international forestry specialists through mutual visits and participation at international gatherings in the field of forestry.

Measures needed to implement in the field of international cooperation in forest sector are presented in Annex 2 Items 16.

IV. Financial Sources for the National Forest Program

The implementation of the National Forest Program is conditioned by availability of financial sources needed for proposed measures. Therefore there is a need to coordinate international and national financial resources to direct them for implementation of forest sector development priority activities.

Significant internal financial resources can be accumulated in the result of economic efficiency improvement of forest management activities as well as implementation of below-mentioned measures:

1) Fight against shadow activities in forest sector;
2) Reduce domestic volumes of sales illegal harvesting;
3) Run more strict customs policy on export of raw wood material from the republic and stimulation of import;
4) Improve a system of compensation for the damage caused to forests;
5) Increase financial revenues from legitimate forest use;
6) Optimize nature use fee rates;
7) Increase scales of certified wood products in domestic and external markets;
8) Increase proportion of NWFPs in total scales of forest use;
9) Develop forest marketing principles in RA;
10) Improve mechanisms for leasing forest lands for recreational and other purposes;
11) Implement efficient tax policy for reforestation, afforestation and other economically non-profitable forest management activities;

12) Strengthen capacities of the fund on forest rehabilitation and forest development in the Republic of Armenia;
13) Develop mechanisms of economic compensation to ensure environmental functions of forests (climate regulation, soil protection, water protection, etc.);
14) Involve public and other organizations.

Considering national and global environmental significance of forests for the solution of forest sector problems it is necessary to ensure the financial support of international donor organizations.

Among main international sources of financing for the National Forest Program implementation are the followings:

1) Global Environmental Facility;
2) Financial resources being allocated for afforestation/reforestation envisaged in the framework of Clean Development Mechanism of the Kyoto Protocol;
3) World Bank;
4) International development agencies;
5) United Nations Organization and others.

V. National Forest Program Coordination and Monitoring

For successful implementation of the National Forest Program a National Coordination Board will be established, which can include the following main beneficiaries: MoA, MoNP, Ministry of Finances and Economics, Ministry of Territorial Management, forest scientific institutions and NGOs, international donor-organizations and others.

National Coordination Board's objectives are as follows:

1) Support efficient cooperation between stakeholders;
2) Coordinate the National Forest Program organizational processes;
3) Ensure information exchange between stakeholders;
4) Carry out the National Forest Program implementation monitoring;
5) Ensure transparency of the National Forest Program implementation;
6) Ensure public awareness about the National Forest Program activities and stakeholder participation;
7) Periodically submit reports on National Coordination Board activities as well as investment and use of human, financial and material resources, ensure their efficient use and provide analysis of envisaged and actual outcomes.