

4) Public Propaganda through Zoo, Botanical Garden, Arboretum and Garden of all kinds of flowers

Zoo, botanical garden, arboretum and garden of all kinds of flowers play the role of dissemination base for scientific knowledge and propaganda base on biodiversity conservation and sustainable use not only the base of biodiversity conservation.

Academy of Sciences assisted to furnish propaganda room of biodiversity in the Pyongyang Children's and Student's Palace for education and propaganda of biodiversity conservation and encourages researchers of biology sectors in the Academy of Sciences to participate in the public propaganda every year.

3.1.4 Financial Investment

3.1.4.1. National Policy on Finance to Improve Environmental Protection and Land Construction

Ministry of Finance adopted an order to increase the budget for environmental protection and land construction in 1996.

The Order emphasised that environmental protection and land construction is prospective work to increase the natural resources to strengthen independent national economy and to hand down beautiful and abundant nature to future generation.

It proposed to increase financial investment of local budget on the following projects:

- Creation of forest, grassland, fire-wood forest, afforestation for erosion control, and especially, restoration of damaged forest and arable land due to natural disaster.
- Management of nature reserves, establishment of scenic spots, sanatorium and rest home, and establishment of forest reserves.
- Protection and increase of marine resources and especially, mariculture.
- Establishment of facilities to prevent environmental pollution.

3.1.4.2. Enforcement of Environmental Impact Assessment with the Loan of Construction.

Submit environmental impact assessment before investment of construction in order to prevent environmental impacts of each construction.

3.2. Existing Sectoral Plans, Programs, Policies and Roles Concerning Biodiversity and Assessment for their Implementation

3.2.1. Environmental Protection

3.2.1.1. Environmental Protection Policy

DPR Korea keeps its policy on environmental protection to provide people with cultural and hygienic life, and natural environment beneficial to man's survival and activities.

Protection of natural environment and prevention of air pollution is the important principle that is being kept in maintaining before industrial construction.

DPR Korea put forward the policy on prevention of environmental pollution and biodiversity

conservation simultaneously for the protection of environment.

1) Prevention of Environmental Pollution

Policy on environmental pollution is as follows:

- Rational location of populated area with industrial area and establishment of filtering system of hazardous wastes from factories, enterprises and sewage, hence, prevent pollution.
- Enforcement of environmental impact assessment before development, and treat the polluter to rehabilitate or compensate pollutes /damaged environment.
- Seize all the elements that can destroy or pollute environment, establish systematic monitoring system on environment, hence, promote surveillance and control on environmental pollution.

2) Strengthen the Natural Environmental Protection

The policy on natural environmental protection is to provide good natural environment to people. In order to implement the policy, followings are to be carried out.

- Carry out afforestation and water conservancy projects to manage mountains and rivers in good state in order to protect natural environment and prevent flood and draught, and give new appearance of the country.
- Give emphasis on the increase and protection of beneficial and rare animals and plants, and preservation and management of natural reserves, animal reserve and plant reserve in original state .

3.2.1.2. Laws and Regulations on Environmental Protection

DPR Korea enacted and declared the Law on Environment in April 1986.

The Government, after the ratification to the Convention on Biodiversity, decided and enforced the detailed Enactment of the Law on Environment in Sept. 1995.

It enacted and declared the Control Regulations on Land and Environmental Protection in DPRK in May 1998, and strengthened legal basis of biodiversity conservation.

3.2.1.3. Action Plan on Environmental Protection

Preparation and implementation of complete Action Plan in executing the laws and regulations of environmental protection is directly linked with biodiversity conservation and sustainable use.

In order to implement the Convention on Biodiversity, the Government of DPR Korea adopted Joint Decision to encourage all the people to wage land management work in Sep. 1996 and made a rule to construct land for 1 month each in spring and autumn. Biodiversity conservation activities are planned in detail and is implemented.

3.2.1.4. Policy, Regulations and Implementation of Action Plan

The policy, regulations and implementation plans on environmental protection in DPRK is under procedure.

General mobilization of land construction which includes biodiversity conservation is

organized every spring and autumn in nation-wide and reviews strictly the results of implementation.

3.2.1.5. General Measures Been Taken

1) Institutional Improvement

DPR Korea newly organized cabinet and strengthened the Ministry of Land and Environment Protection at the 1st meeting of the 10th Supreme People's Assembly in September 1998, hence, could coordinate and strengthen the management of land environment and protect natural environment.

2) Propaganda and Re-education

Propaganda on environmental protection are carried out actively through publications including magazine "Nature Conservation", newspapers, radio, television and means of propaganda of central and local areas.

In addition to this, propaganda and practical activities are waged in various forms closely combined with environmental protection during the period of planting month, bird protection month and marine resource protection month in spring and autumn.

Re-education of technicians and officials in this field is given every year at the People's Study House.

3.2.2. Forestry

3.2.2.1. Relevant Policies

DPRK, signed the Convention on Biological Diversity at the UNCED in 1992, prepared 10 year plan (1996-2005) on afforestation to protect forest and use it sustainably by cooperating together in forestry with timber fields and waged activities for its implementation.

Policy relevant to biodiversity conservation in forestry sector is as follows:

1) Promotion of Forest Natural Resources and Wild Animals and Plants

Ministry of Land and Environment Protection and the Ministry of Forestry carried out comprehensive survey on forest natural resources to protect the resource of forest and wild animals and plants, and defined the areas of forest, and wild animals and plants to be protected.

On this basis, it could strengthen the regulations on approval after reviewing the rules on usage and export of forest natural resources, rules on hunting of wild animals and rules on usage of natural herbs.

Ministry of Land and Environment Protection and the Ministry of Forestry established necessary monitoring stations and increased the role of inspectors in order to carry out this work successfully.

2) Creation of Forest Resources and Promotion of Policy on Sustainable Use

Ministry of Land and Environment Protection and the Ministry of Forestry keep to observe recycle-timbering in the production of timber and promote afforestation.

It made models in tens of counties of afforestation to meet fully the demand of timber of relevant regions in their own forest regions. It organized group for forest use in every forest

management departments for afforestation and use of forest resources. It also promoted the work of increasing the rate of manufacturing timber in timber manufacturing factories and encouraging the effective use of wastes in order to decrease the wastage of forest resources.

3.2.2.2. Relevant Laws and Regulations

Recently, the Ministry of Land and Environment Protection and the Ministry of Forestry declared new laws and regulations to supplement existing laws and regulations and promotes its work for its implementation.

Law on Forest of DPRK is adopted and declared in 11 Dec. 1992.

The Government set out tasks in its decision No 25 to cover up all the mountains of the country with trees with the participation of whole nation, whole army and whole people, and notified its practical plan.

It has taken many measures to afforest by whole nation movement in September 1996 and promotes for its implementation.

3.2.2.3. Action Plan

1) Action Plan on Biodiversity Conservation in Forest Sector

Ministry of Land and Environment Protection and the Ministry of Forestry started preparing the Action Plan on biodiversity conservation in forestry sector in 1998.

Action Plan sets out following tasks:

- Establishment of network system on nature reserve areas in nation wide, expand afforestation of regions and boundary regions of the mountains significant with biodiversity and limit its use.
- Improvement of environment for habitat of wild animals and plants to conserve its species in *ex-situ* with great significance of biodiversity and expand facilities to produce saplings of few species for its protection and increase.

2) National Plan on Forest Planting and Seeding

Ministry of Land and Environment Protection and the Ministry of Forestry prepared a national plan on forest construction by 2020 in 1992 and supplemented the goal of 10 year plan of forest planting and seeding by 2005 from 1996.

Forest planting and seeding of 2 million ha.

3.2.2.4. Implementation of Policy, Regulations and Action Plan

DPR Korea redefined and supplemented nature reserve areas since the implementation of the Convention on Biodiversity and established reserves according to the category defined by IUCN. Through the establishment of nature reserves and plant reserves, it makes measures in detail to protect the environment of habitat of rare animals and plants and to establish base for gene resources.

Trees are planted in 398,900 ha for afforestation, 41,484 ha of protected forest is created and 103,380 ha. of forest for fire-wood is created during 5 year since 1994.

3.2.2.5. Measures Been Taken

1) Institutions

Ministry of Land and Environment Protection is in charge of protection, creation, general management and monitoring of forest. However, Ministry of Forestry is responsible for distinguishing forest of industry with national forest according to the structure and usage of forest, and 3 provinces of Amrok and Tuman river basins. The last unit under the Ministry of Land and Environment Protection is forest managing office and industrial forest managing office under the Ministry of Forestry.

2) Propaganda and Re-education

Propaganda for forest protection and creation is actively waged beside the public planting campaign in every April and October, the planting months.

In addition to this, propaganda is carried out through public education including newspapers, radio, means of propaganda and scientific film.

Re-education for technical officials on conservation of forest eco-system and forest creation is given at the re-education network of Grand People's Study House in Pyongyang and University of Agro-forest in Ryanggang Province.

3.2.3. Agriculture

3.2.3.1. Relevant Policies

DPRK has established policy for biodiversity conservation recognizing the great significance of conservation of agro-eco environment in providing high and sound production of agriculture in agricultural sector which suffered continuous natural disaster in recent years, and paid great effort for its implementation.

Relevant measures are as follows:

1) Development of Agriculture that conserves environment

Measures are being taken to raise agricultural production by increasing the fertility of soil, prevent soil erosion and promote method of organic agriculture according to regional character based on regionalization of agricultural ecology of arable land.

2) Promote stereo-type usage of land

Measures are being taken to allocate kinds of species rationally in accordance to the principle of the right crop in the right time and the right crop on right soil, improve, constantly, the cultivating technology, encourage two-crop farming and inter-cropping, and increase the production in the tilled land.

3) Strengthen the activities to protect the biodiversity of agriculture

Measures are being taken to promote the study and increase awareness on the importance of biodiversity of agriculture from the viewpoint that biodiversity conservation is essential to the increasement of current agricultural production and future agricultural development.

3.2.3.2. Relevant Laws and Regulations

Comprehensive legislations on conservation of gene resources are to be made in DPRK.

Legislations on the protection and breeding of new species of crops and domestic animals and its broad use are established. Regulation on inspection and management of species is made in May 1992 through Government Decision and the Ministry of Agriculture ordered "Detailed Regulations for the Application of a Law on Inspecting Agricultural Crop" in February 1993. It declared the "Detailed Regulations for the Application of Law on the Management of Breeding Domestic Animals" as a Order of the Ministry and specified laws and regulations to conserve gene resources by declaring the "Regulation on the Management of State Seed Farm" in May 1995.

In addition to this, quarantine regulation in boundaries are made in order to prevent the intrusion of harmful blights from other countries in Aug 30, 1993.

3.2.3.3. Action Plan

Ministry of Agriculture has prepared Strategy and Action Plan on the development of Agriculture that conserves environment to provide high and sound production of agriculture in 1998.

The focal points of the Action Plan concerning biodiversity are as follows:

- Capacity building for the maintenance of biodiversity of agriculture.
- Establishment of gene bank and its system of use to conserve gene resources.
- Introduction of technology which does not deteriorate the soil erosion.
- Introduction of agro -forestry combined management technology suitable to the regional characters.
- Introduction of methodology of organic agriculture.
- Creation of forest for firewood and establishment of system for sustainable use.
- Promote the study on biodiversity of agriculture.
- Establishment of information centre for biodiversity of agriculture.
- Selection of traditional breeding seed of agricultural crop and expansion of cultivating area.
- Technology of two cropping and inter cropping.
- Comprehensive extirpating system for blight prevention.
- Creation of grassland suitable to regional character and its sustainable use.

3.2.3.4. Implementation of Policy, Legislations and Action Plan

Due to continuous natural disaster occurred in recent years, various difficult conditions were occurred in implementing the policy on agriculture. However, emphasis is given in making scientification of agricultural method, allocation of species according to regional character for the regionalization of agro-ecosystem and the work to prevent soil erosion is vigorously waged as one part of general mobilization of land construction.

3.2.3.5. General Measures been Taken

1) Institutional Arrangement

Biodiversity in agriculture is under the responsibility of the Ministry of Agriculture within the Government and Institute of Agricultural Sciences within the Academy of Sciences. The Institute of Agricultural Sciences has its branches in regions where agro-eco environment is peculiar and institutes throughout the country in cross-sector fields.

Seed selecting station, central artificial breeding station, central botanical quarantine station, central livestock quarantine station which contribute directly to the gene resource protection carry out activities under the Ministry of Agriculture.

2) Propaganda and re-education

DPRK gives great attention to the national development of agriculture. It organizes nation-wide lectures on Juche farming method and disseminates knowledge on biodiversity conservation and scientific farming technology. Besides, various means of propaganda and scientific film are widely used for propaganda and public education.

3.2.4. Management of Fishery and Marine

3.2.4.1. Relevant Policy

DPRK, for sustainable development of fishery, has executed the policy to strengthen the environment protection of coast and terrestrial waters by carrying out fishery action on the basis of use-feasible potentials and by preceding the protection and increase of fish resources. Ministry of Fishery and Ministry of Land and Sea Transport have jointly taken several measures to conserve biodiversity of sea and prevent pollution of marine environment.

Relevant policy on biodiversity conservation in the management of marine and fishery requires as follows:

1. Policy to regulate the use and promotion of fish resource protection on the basis of resource amount. It strengthens the activities to protect and increase the fish resources especially, the resources in terrestrial waters and fish resources and limits the use of fish resources by units that does not contribute to the protection and increase of fish resources. On this basis, it regulated permission to use fish resources and controls the use of fish resources without permission. It established rationally, the marine resource reserve for the protection of fish resources in inland waters, coast and terrestrial waters.
2. Policy to restore environmentally damaged water basins in time by assessing environmental impact before development of water basins. It controls to keep under responsibility of relevant organization to restore the damaged water basins and strengthen the legal stipulation to carry out assessment of environmental impact before the development of water basins.
3. Extension of mariculture considering the biodiversity conservation

It takes measures to extend sea plant breeding by putting in order the facilities of breeding of

sea-plants in favourable natural water basins in order to mitigate artificial pressure on marine resources and to increase living and food standard of people.

3.2.4.2. Relevant laws and regulations

DPRK has adopted and declared the Law on Fishery in January 1995 which strengthens the foundation of sustainable use of fish resources by protecting water ecosystem and increasing fish resources, the Law on Water Resources in June 1997 and the Law on Prevention of Marine Pollution in October 1997.

The Government of DPRK has adopted the decision on "Concrete execution of the Law on Fishery" in March 1995 and is under its execution.

The Government of DPRK has ratified the "Regulations on Protection, Management and Monitoring of Coastal and Terrestrial Waters" in December 1990. The main objective of the regulation is to turn the coastal lines of the country into more beautiful and neat place by protecting, managing and using the resources of the coastal lines and terrestrial waters rationally .

The Government has ratified the Regulation on the Management of rivers and streams in May 1993, and Regulation on economical activities of foreigners in economic areas, DPRK in July 1993.

The Government has decided the Regulation on Creation, Protection and Control of Marine Resources in March 1997 and the Ministry of Fishery and the Ministry of Land and Environment Protection are in charge of its implementation.

The Government has adopted the regulation on the "Development of Pisciculture in Great Amount" in August 1997. This gives great effect to conservation and sustainable use of bio-species diversity and ecosystem of rivers and stream and lagoons.

3.2.4.3. Relevant Action Plan

The focal projects of action plan relevant to biodiversity and sustainable use in fishery and marine management sectors are as follows:

1) Coastal and marine waters.

- Elementary basic survey on biodiversity in marine and coastal ecosystem.
- Increase of marine cultivation of aquaculture.
- Establishment of marine resource reserves and improvement of management.
- Improvement of management of water areas with high production.
- Evaluation of environmental impact for protection of water body.
- Systematic survey on potential resources of aquaculture with economic value in coastal and marine, and stipulate and strengthen fishing activities.
- Prevention of sea-environmental pollution.
- Environmental protection of fishing ground and rehabilitate accumulated fishing ground.
- Establishment of integrated development plan of sea water body.

- Database of coastal and marine resources.

2) Terrestrial waters

- Survey and evaluation of biodiversity in freshwater body.
- Extension of hatching and releasing of fish in freshwater, improvement of facilities.
- Prevention of environmental pollution particularly, prevention of eutrophication of freshwater.
- Prevention of fishing the endangered species.
- Evaluation of impacts that introduced species effect the water ecosystem.
- Comprehensive use of water resources and provide organic linkage of marine resources.

3.2.4.4. Status of Implementation of policy, legislation and action plan

Conservation of marine bio- resources with the aim to increase its resources greatly, provides feasibility of sustainable use. DPRK, through months of protection of marine resources in every April and July which is stipulated in the Law on Fishery, strengthens education for the protection of marine resources and intensifies its survey and control.

Scientific Research Institutes of marine should prepare data relating to protection of marine resources every year and submit it central like State Planning organ.

Activities are actively waged in order to increase the production to 3-5 tonnes by establishing more than 2-3 nurseries in every countries. Nurseries are built in every parts of the country and areas of freshwater nurseries are increased in accordance to the decision and order of the Government. Works to increase the production by conserving environment and diversity of livings that habitat in coastal by emphasising the protection of coastal and terrestrial waters.

3.2.4.5. Status of General Measures been taken

1) Institutions

Well organized monitoring system of marine resources is established in DPRK from the centre to the lowest unit that works in close cooperation each other under the Ministry of Fishery and Ministry of Land and Environment Protection. Besides, bases for scientific research on marine are firmly established through the organization of Branch of Fishery, Academy of Sciences including Institute of Fishery in Fresh water, Institute of Cultivation of Shallow-sea Products and Institute of Fishery in the East Sea and West Sea.

2) Propaganda and Training

Biodiversity conservation in water and ecosystem is widely propagandized through various means of propaganda like newspaper, radio and public science magazines by introducing good experiences and methods to increase resources through pisciculture in fresh water. This work is actively waged especially in the months of marine resource conservation. Social organization like Society of Marine Resource Conservation and Society of Fishing Armatures etc. under the Federation of Korea Nature Conservation participate in the propaganda and education work.

Personals are trained in Universities and colleges of Fishery in the East Sea and the West Sea of the country and practical education is given in Kosong training base for cultivating shallow sea products under the assistant of FAO.

3.2.5. Health (traditional medicine)

3.2.5.1. Relevant Policy

DPRK has long history of Koryo medicines. Today, we are faced with tasks to modernize and scientificate Koryo medicines by combining correctly the Koryo medicines with physiology for the health care of human being. Studies on Koryo medicines (traditional medicine) are more intensified and demand for its medicine is increasing continuously. Therefore, it is essential in the development of Koryo medicines to conserve Koryo medicine resources and use it sustainably for the improvement of man's health.

Policy on Koryo medicines and its sustainable use are as follows:

1. Policy that keeps in close linkage with conservation and use

Ministry of Health as a main organ that is responsible development and use of Koryo medicines, strengthens the conservation and increase of Koryo medicine resources and takes various measures to use it rationally.

2. Policy on sustainable use of Koryo medicine resources

The Administrative Council issued an order on system on usage of medicinal plant resources which stipulates to establish strict regular in harvesting and use of medicinal plants by preceding conservation and increase of medicinal plant resources. It has already taken measures to establish cultivation base for medicinal plants and breeding base for animals that are used for medicines relating to sustainable use of Koryo medicine resources in this field.

3.2.5.2. Legislations and regulation on sustainable use of Koryo medicine resources

The Government has adopted decision on the establishment of cultivating base for medicinal plant resources and its production in January 1991 and made 13 relevant orders. 30 detailed regulations on the production, procurement and use of Koryo medicine resources including the regulation on management and monitoring of Koryo medicines are made in May 1992. Governmental orders on conservation of individual gene resources are adopted e.g. Protection, increase, cultivation and effective use of *R. elongata* in Sep. 1993.

3.2.5.3. Action Plan

Action Plan on Koryo Medicine focuses on the followings:

- Systematic survey on the evaluation of the amount of herbal resources and determine the total amount of harvest based on it.
- Increase the Koryo medicine resources like Koryo ginseng, determine the areas and items to be protected and strengthen its protection work.
- Increase the production of cultivated medicinal plants. Relating to this, artificial breeding facilities of Koryo medicinal animal resources including cultivated medicinal plants should be determined and modernized.

- Strengthen the conservation of gene resources of medicinal plants.
- Promote scientific research work for sustainable use of Koryo medicine resources and strengthen dissemination of scientific technology.

3.2.5.4. Status of Implementation of Policy, Legislation and Action Plan

12 medicinal plant farms, 15 medicinal plant experimental farms and 16 medicinal plant cultivating office are organized and operated in order to conserve domestic bio- 14 species which are the main production resources of Koryo medicines like *Panax schinseng* and 22 valuable endemic herbs like *Rheum coreanum*, *Angelica gigas* and to use it sustainably.

Stations for survey and designing of Koryo medicine resources are established and they carry out its work to conserve and survey the resources by regions. As a result of this, more than 1000 ha. of Koryo medicine resources rare expanded every year, 10,000 ha. of cultivation and for Koryo herbs are created and 45 units of deer farm are made, hence, increase the resources.

3.2.5.5. Status of General measures been taken

1) Institution

The management, conservation and use of Koryo medicinal resources is under the direct responsibility of the Ministry of Health and Management Department of Koryo Medicines under the Ministry.

2) Propaganda and Re-education

Propaganda and education on conservation of Koryo medicinal resources and its sustainable use is principally the same with other sectors of biodiversity conservation.

3.2.6. City Management

3.2.6.1. Relevant Policy

Tree planting revolution in city should be promoted in order to provide people with cultural, emotional and living condition and to build beautiful modern city.

Tree planting in city is a significant work closely related with biological diversity. The major task based on policies in relating to city construction is the sustainable use of scenic spots and landscape resources and increase of capacity for specie conservation in zoos and botanical gardens in cities, besides, the city greenization work.

3.2.6.2. Legislation and Regulation relating to City Management

The Government has adopted the Law on City Management of DPRK in 1992 as a follow up measure to implement the Convention on Biodiversity, and through its implementation it made to make more complete plan on tree planting and greenization for environmental protection and city ecosystem form the step of designing the city construction.

The Government has adopted the decision on February and March 1993 on the Regulation on managing zoos and botanical gardens; the ex-situ base for biodiversity and accepted the regulation on management of parks and recreation grounds at the same period.

It once again gave Government order on tree planting and greenization throughout the country in February 1998, hence, promotes the work of conservation and creation of city eco-system.

3.2.6.3. Action Plan

The major action plan of city construction relating to biodiversity conservation is as follows:

- Provide diversification of city tree-planting.
- Promote the ability of facilities of nursery, plants, seed farms and breeding place of pioneers to increase city tree planting.
- Provide organic linkage of green land in city centres and urban centres.
- Increase the eco-environmental conservation of scenic spots and landscape.
- Prepare conservation plan of rare and endangered species in zoos and botanical gardens and increase capacity of breeding facilities.
- Promote training of personnel.

3.2.6.4. Status of Implementation of Policy, Legislation, and action plan

DPRK has achieved great success in the field of city management from the point of the Law on Environment Protection through conserving biodiversity in conformity with the principle demand of the Law on City Management.

The work to expand city green area and turning the surrounding areas of factories into parks by planting trees and flowers and enterprises by promoting landscape architecture of city is carried out through out the country.

Gene resources and specie diversity are greatly conserved through the establishment of 13 botanical gardens and 9 zoos in local areas including Central Botanical Garden and Central Zoo in Pyongyang and it serves as a public educational ground. About 80 parks and recreations grounds under eco-environment conservation of scenic spots and landscape are established and managed under the system of management.

3.2.6.5. Status of general measures been taken

1) Institution

The principle managing unit of the work system for city construction and management is every city, country and district. Tree planting stations are organized in it and it is in charge of the work of planting trees. Besides, botanical gardens, zoo and recreation ground are enterprised separately to this and carries out the work.

2) Propaganda and Training

Tree planting in towns is carried out in accordance to the principle of landscape architecture in towns in order to provide luxurious and lean condition for life and work to the working people, which the government pursues with all firmness and consistency, and many scientific and technological knowledge and good experiences are widely propagandized in various means and method of propaganda. Various forms of tree planting, exhibition like Exhibition on Kimjongilia is organized throughout the country in every gear, hence, contributes significantly to the public education. Training of personnel in this field is under the responsibility of high educational organs like Pyongyang University of Building and Construction Materials.

Chapter 4. Further Activities to Implement Article 6 of the Convention on Biodiversity

4.1. Gap Assessment

4.1.1. Gap Assessment comprising with the Obligations of Convention on Biodiversity

The Article 6 stipulates that each Contracting Party shall, in accordance with its particular conditions and capabilities, develop national strategies and action plans for the conservation and sustainable use of biological diversity, and require to formulate and implement sectoral or cross-sectoral Action Plan, program and policy for the implementation of national strategies and action plans.

DPRK, signed the Convention on Biodiversity in 1992 and ratified it in 1994, can not be seen as earliest countries to implement the Convention.

DPRK has been implementing the policy on the principles that conserving nature take the first place in every work, upholding the teachings of the great leader Kim Il Sung, the founder of the socialist country, to make the country into golden tapestry full of birds and animals and provide beautiful and rich natural environment to people, and also the programmatic teachings of the great leader Kim Jong Il to protect environment and manage land in higher level.

The Government of DPRK has taken radical measures to establish reserve areas, 19.78% of the total land area in 1995 and encouraged whole party, whole people and whole army to participate in the land environment protection work by establishing land environment protection months in spring and autumn from 1996 in order to improve the country's nature environment and remove the severe natural disaster radically.

From Jan. 1998, national strategy and action plan for biodiversity conservation is under preparation in DPRK with the support of GEF. During the time, many issues were raised to overcome in implementing the Article 6 of Convention on Biodiversity.

First, leading officials are in lack of knowledge on conservation and sustainable use of biodiversity. Due to lack of knowledge on biodiversity conservation and misunderstanding on it, some officials destroy biodiversity quiet a lot saying that they are solving present hard economic problems.

Next, institutional abilities of relevant sectors and sectors in charge of biodiversity conservation and sustainable use are in poor state and the link between sectors and cross sectors is not fully provided due to lack of competent personnel. In order to fully implement the Convention, not to mention of Article 6, it is foremost to promote capacity building of all sectors on biodiversity conservation and sustainable use.

4.1.2. Problems and Difficulties Rising in the Implementation of National Strategy and Action Plan for Biodiversity Conservation

Issues on biodiversity conservation and sustainable use including the establishment of legislation, institutions and facilities to protect human resources, development of science and technology, education and training, establishment of information management system and

international cooperation, etc. are not fully reflected in the goals and objectives of the Government.

This should be solved by State Planning Commission which is in charge of engaging the issue of biodiversity conservation and sustainable use in the national economic plan and the cabinet which coordinates the overall capacity building of the state and leads the implementation of the policy.

Issues and difficulties rising in the implementation of the state plan and objectives for biodiversity conservation and sustainable use are as follows:

a. Issues to complete legislations and regulations on biodiversity conservation and sustainable use.

DPRK, already, has strong legal basis for biodiversity conservation and sustainable use. Several laws including the "Law on Environment Protection", "Land Law" and "Forest Law" are declared in DPRK. However, regulations to protect wild animals and plants, and natural ecosystem more effectively are still not yet declared. There are few paragraphs clarified on overall protection of nature including ecosystem and wild animals and plants in the existing regulations under the laws already declared. Hence, it is important to complete comprehensively, the laws and regulations on biodiversity conservation and sustainable use. Besides, it is also important to strengthen system that provides strict implementing conditions for biodiversity conservation and sustainable use.

b. Issues to fully solve the contradictions between protection and development.

DPRK solves the problems coming from contradictions between protection and development by including the biodiversity conservation plan in the general plan on land construction. However, some local areas lean too much on development and ignore protection.

Forest clearing due to expanded demand of wood and fuel, development of forest due to food shortage and over-harvest of fish resources, etc. is a great threat to biodiversity and damages the habitats of wild animals and plants.

Local areas should prepare provincial plans on biodiversity conservation and promote it in order to solve the contradictions between development and protection and to promote comprehensive development on the basis of nature conservation.

c. Issues to strengthen education and training on biodiversity conservation

There is a lack of teachers specializing biodiversity conservation in the existing universities and colleges. Courses that are closely linked with biodiversity like topography, ecology and bio-geography are not given emphasis in the curriculum, and doctoral students study only in bio-experiment, hence, there is a lack of human resources who can succeed this work.

Universities have few field facilities and experimental facilities concerning biodiversity conservation hence they stick too much on class-room education and give small knowledge of biodiversity.

There are still more problems to overcome like shortage of references and publications on biodiversity conservation, and professionals in scientific research sectors.

d. Issues of financial investment to biodiversity conservation

DPRK is under preparation of National Strategy and Action Plan with the help of GEF, the financial organization for the implementation of Convention on Biodiversity, in the first phase of its implementation.

Preparation of National Strategy and Action Plan is the first phase of implementing the Convention on Biodiversity and its works to be carried out under it is very vast.

DPRK, due to several natural disaster and food shortage from decrease of agricultural production, and investment to various economic sectors in recent years, is in difficult condition to contribute much money to biodiversity conservation. However, the government invests quite a lot to the biodiversity conservation sectors despite domestic money shortage considering national and international importance of biodiversity conservation.

In such a circumstances, it is essential for GEF to strengthen its financial support to DPRK on biodiversity conservation as a financial organization for Convention on Biodiversity.

4.2. To Actively Enhance Strategies, Action Plans and Priority Projects in Various Fields

1. Biodiversity Conservation

Strategy description

In order to fully conserve biodiversity, it is important to define the status of composition of domestic ecosystem, species and gene resources, monitor the changes regularly and strengthen legal and political measures. Besides, adverse impacts on biodiversity should be monitored and assessed. Concrete system of *in-situ* conservation should be established, its protection and management be promoted and *in-situ* and *ex-situ* conservation be strengthened.

It is also important to strengthen the protection of gene resources with economic importance. Activities to conserve biodiversity outside protected areas including establishment of buffer zones around protected areas and ecological corridor between protected areas should be carried out.

Actiones

- 1) Survey and assess, comprehensively, the biological diversity in DPRK.
 - Prepare national inventory on biodiversity and asses it.
 - Combine the results of assessment on regional bio-resources and eco-environmental changes by regions and establish concrete system to assess regularly.
 - Evaluate comprehensively the economic value of biodiversity.
- 2) Modify and supplement the system of newly established domestic protected area and define the objectives of management by protected areas.
 - Modify and supplement the national system of natural protection area.
 - Clarify objectives of management for wetland protection within the system of nature protection area and strengthen the protection and management.
 - Define objectives of protection and management of marine resource reserves in territorial waters and sea-waters, and strengthen its protection and management.

- 3) Establish facilities to protect and manage natural protection area and promote its protection and management.
 - Prepare and implement management plan of all the nature protection area.
 - Encourage local people to participate in the management of natural protection area and protection of animals and plants.
 - Strengthen scientific research and monitoring in natural protection areas.
- 4) Make up preservation plan on species that are of great significance in biodiversity and improve protection and management.
 - Publish "Red Data Book".
 - Prepare species preservation plan in-situ and implement it.
 - Establish species preservation facilities in ex-situ, develop artificial breeding technic of main species and expand the protection and its increase.
- 5) Establish preservation network system of national crops, domestic animals and microorganism gene resources.
 - Establish national gene bank and use it as a centre for gene resource preservation.
 - Establish national preservation network system for gene resources.
- 6) Restore destroyed ecosystem outside protection area and, establish buffer zone, and biology corridor.
 - Restore destroyed ecosystem outside natural protection area and establish buffer zone.
 - Include establishment of biology corridors within natural protection areas in the afforestation plan and promote it.
- 7) Prepare monitoring plan on biodiversity and implement it.

Priority Projects (1~11)

Project 1:

Title: Country Study: Biodiversity Inventory and Assessment

Objectives:

- To promote the completion of the list of biological resources
- To take general assessment of bio-resources

Justification: Under the circumstances that national strategy and Action Plan on Biodiversity is prepared without country study, there is a need to assess comprehensively, on the biodiversity of the country

Activities:

- To survey on numbers, distribution and status of species of fauna and flora and

micro-organisms by regions where research is less done.

- To prepare regional plant community classification table.
- To organize systematic survey on structure and function of main ecosystems.
- To survey and assess the threatened status of biodiversity.
- To assess economic value of biodiversity.
- To prepare and publish nearly completed bio-resource inventory and evaluation report on biodiversity.

Implementing Agency: Academy of Sciences

Stakeholder: Ministry of Education

Timing: 4 years

Budget: Category II

Project 2

Title: Capacity Building for Biodiversity Monitoring

Objective: To strengthen the capacity of biodiversity monitoring and damage control

Justification: Major difficulties arising in the monitoring and control of adverse impacts to biodiversity are lack of biodiversity monitoring system and of capacity, equipment and experiments.

Activities:

- To establish monitoring system on forest fire.
- To complete monitoring network system on pollution and blights.
- To establish strict monitoring system on over use of natural resources, destruction and damage to biodiversity.
- To supplement and complete laws and regulations to strengthen biodiversity conservation.

Implementing Agency: Ministry of Land and Environment Protection.

Stakeholders: Ministry of Social Security, People's Committees of every Cities (counties), Provinces

Timing: 2 years

Budget: Category II

Project 3

Title: Establishment of National Nature Reserves

Objective: To establish full protection and management system on former protected areas and newly expanded nature reserves.

Justification: There are lack of necessary trained staffs and facilities to manage the protected areas that are newly established. And existing nature reserves and protected areas are not at full protection and management.

Activities:

- To redefine the boundaries of newly expanded nature protected areas.
- To identify the goal of protection and management of each nature reserves.
- To equip with new management facilities to protect and manage major nature reserves and allocate necessary managing staffs.
- To establish specialized organs for management of nature reserve under Ministry of Land and Environment Protection.

Implementing Agency: Ministry of Land and Environment Protection

Stakeholders: Ministry of Social Security, People's Committees of each Cities(counties), Provinces, State Academy of Sciences, Ministry of Forestry.

Timing: 2 year

Budget: Category III

Project 4

Title: Management of Mt. Paekdu Biosphere Reserve

Objective: To work out and implement protection and management programme to protect typical ecosystems in Mt. Paekdu Biosphere Reserve which is registered as an international biosphere reserve.

Justification: Since Mt. Paekdu Biosphere Reserve is registered as an international biosphere reserve in 1989, the State Academy of Sciences had proceeded a comprehensive study on it and is under systematic survey of forest ecosystem. However, protection and management plan acceptable to biosphere reserve is not prepared yet, and several issues are raised in its protection and management.

Activities:

- To strengthen systematic survey and research on ecosystem of Mt. Paekdu Biosphere Reserve.
- To integrate infrastructure on protected areas for the management of Mt. Paekdu Biosphere Reserve.
- To develop new management plan of nuclear zone, buffer zone and multi-use zone.
- To increase ability and capability of expertise for administrative officials and local managers.
- To strengthen joint study with between the scientists of DPRK and China.

Implementing Agencies: Ministry of Forest, Academy of Sciences.

Stakeholders: People's Committee of Ryanggang Province, General Bureau of Revolutionary Site

Timing: 5 years

Budget: Category II

Project 5

Title: Biodiversity Conservation of Mt. Myohyang

Objective: To protect peculiar biodiversity of Mt. Myohyang Nature Park, and improve its management capacity.

Justification: Mt. Myohyang is internationally significant area. Especially, Mt. Myohyang is abundant with many wild animal and plant species.

As eco-tourism is expanded in the area, it is necessary to establish a sound system for biodiversity.

Activities:

- To re-examine the management plan on parks including eco-tourism development plan and buffer zone development plan.
- To survey and monitor biodiversity regularly.
- To establish publicity facility to increase awareness on biodiversity and prepare curriculum for public propagation and education.

Implementing Agencies: Ministry of Land and Environment Protection.

Stakeholders: Academy of Sciences N. Pyongan Province and Jagang Province.

Timing: 3 years

Budget: Category II

Project 6

Title: Wetland Conservation of Estuaries of Chongchon River, Kumya River, Tuman River and Taedong Bay.

Objectives: To take measures to protect and manage wetland of internationally important areas for migratory bird protection in estuaries of Chongchon river, Kumya river, Tuman river and Taedong bay.

Justification: Chongchon river estuary (S. Pyongan Province) and Taedong Bay (Taetan and Ongjin county, S. Hwanghae Province) of the Korean West Sea, Tuman river estuary (Rajin, Sonbong city) and Kumya river estuary (Kumya county, S. Hamgyong Province) take great significance as a transit site and wintering site for migratory birds of north and east of Asia.

The government has designated wetland of these areas as national migratory bird(wetland) reserves in 1995, however, its protection and management are

not well done and its infrastructure is in absence.

Activities:

- To examine a plan of developing 4 wetland reserves and equip with on-site facilities to protect and manage 4 migratory bird (wetland) reserves and survey it regularly.
- To evaluate elements of threat to waterfowl's living and take measures to mitigate it.
- To expand sound habitat for waterfowls, restore destroyed ecosystem and establish demonstration site for wise use of wetland.
- To make research on wetland conservation and train personnel to manage wetland.
- To increase awareness of local people on wetland conservation.

Implementing Agency: Academy of Sciences, Ministry of Land and Environment Protection

Stakeholder: People's Committee of city, county, provinces

Timing: 4 years

Budget: Category II

Project 7

Title: Promotion of Management of Fishery Resource Reserve

Objectives: To protect fish resources and improve its management capacity.

Justification: Though 11 fish reserves in territorial waters and 15 in marine are designated, there is still no infrastructure of it and its protection and management is not well done.

Activities:

- To establish infrastructure on main fish reserves.
- To make up management regulations for fish reserves and strictly keep it.
- To monitor and observe, regularly, the biodiversity and its changes of fish reserves.
- To increase awareness of local people on fish reserves that take great significance.
- Increase ability and capability of personnel who manage fish reserves.

Implementing Agencies: Ministry of Land and Environment Protection, Ministry of Fishery.

Stakeholders: Academy of Sciences, Ministry of Public Security.

Timing: 4 years.

Budget: Category II.

Project 8

Title: Publication of "Red Data Book" and Protection of Endangered and Rare Species.

Objectives: To strengthen protection of endangered, rare and endemic species including Sansam (*Panax schinsing*), *Keumkangsanica asiatica*, *Rheum coreana*, black-faced spoonbill (*Platalea minor*), crane and *Nemorphedus goral* (Amur goral).

Justification: For plants there are 10 endangered species, 42 vulnerable species and 75 rare species, and 157 endangered and rare species of animals distributed in our country. It is, therefore necessary to survey regularly the populations and changes in nature and take measures to protect the species and their habitat. However, Red Data Book is still not yet published.

Activities:

- To publish Red Data Book which notes present status of endangered and rare species.
- To prepare protection plan for to-be-protected species in emergency.
- To establish field facilities for protection in order to protect and increase species to be protected in emergency in its habitats.
- To survey, regularly, the changes of quantity of endangered and rare species.
- To increase public awareness on the importance of endangered and rare species protection.

Implementing Agencies: Academy of Sciences, Korea Nature Conservation Union.

Stakeholders: Ministry of Land and Environment Protection, Ministry of Education.

Timing: 3 years

Budget: Category III

Project 9

Title: Capacity Building of *Ex-situ* Conservation especially in Botanical Gardens and Zoos

Objectives: To strengthen the capability of preserving endangered, rare and endemic species in botanical gardens and zoos.

Justification: Though artificial breeding of endangered, rare and endemic species is carried out in Central Botanical Garden and Central Zoo at present, the captive facilities are not good enough and have some technical problems.

Activities:

- To prepare strategy of species preservation in botanical gardens and zoos.
- To re-equip with artificial facilities in botanical gardens and zoos and expand its size.
- To introduce advanced technologies to protect endangered and rare species.
- To set up database of collected species.

- To strengthen cooperation with botanical gardens and zoos of other countries.

Implementing Agencies: Central Botanical Garden, Central Zoo.

Stakeholders: Academy of Sciences, Ministry of Land and Environment Protection.

Timing: 4 years.

Budget: Category II.

Project 10

Title: Establishment of Gene Bank

Objectives: To establish a national gene bank to preserve genetic resources and develop a database for crop germ-plasm.

Justification: At present, gene resources are preserved and used in several institutes under Academy of Sciences, however, preserving facilities are not properly provided.

Activities:

- To establish a national gene bank and develop a data base for gene resources.
- To establish expert panel to organise and study the gene resources and provide linkage between sectors in gene resource utilization.
- To strengthen capability of preservation and utilization of gene resources.

Implementing Agency: Academy of Sciences.

Stakeholder: Ministry of Agriculture.

Timing: 5 years.

Budget: Category I.

Project 11

Title: Protection of Black-faced Spoonbill and Chinese Egret.

Objectives: To protect fully, the globally threatened Black-faced spoonbill and Chinese Egret.

Justification: At present, it is estimated that the number of Black-faced spoonbill in the world is about 550 and 2,500 of Chinese Egret. The habitats of these two threatened species are identified to be uninhabitant islands in the Korean West Sea. Therefore, it is a great responsibility for DPRK to protect these species.

Activities:

- To survey, regularly the habitats and breeding population of Black-faced spoonbill and Chinese Egret and proceed ecological study on it.
- To develop artificial breeding of black-faced spoonbill and Chinese Egret and

proceed ecological study on it.

- To prepare and implement the artificial breeding plan of Black-faced spoonbill and Chinese Egret outside their habitats.
- To increase public awareness to protect Black-faced spoonbill and Chinese Egret.

Implementing Agencies: Academy of Sciences, Central Zoo.

Stakeholders: Ministry of Land and Environment Protection.

Timing: 3 years.

Budget: Category III.

2. Sustainable Use

Description of Strategy

Biodiversity conservation requires to provide ecological activities in forestry, fishery and agriculture that demands sustainable use of resources. Especially, DPRK, with traditional history of medicines, should strengthen sustainable use of Koryo medicines for the development of its medicines.

Furthermore, it is important to encourage socio-economic activities to use sustainably and restore ecosystem damaged due to natural disaster in recent years and rehabilitate ecologically important habitats.

It is important to develop eco-tourism and ecologically sustainable sanatorium for DPRK which possesses peculiar landscape and diverse biology.

Besides, it is important to strengthen capacity related to bio-security, establishment of evaluation procedure of environmental impact related to biodiversity and control of adverse impact of endemics in the strategy of sustainable use.

Actions

- Develop sustainable forestry considering the biodiversity.
- Promote the biodiversity of agriculture and development of resource recycle agriculture.
- Expand the nursery of aqua animals and plants and develop fishery to resource management fishery.
- To accelerate the protection and increase of herbal plant resources and provide sustainable use of Koryo medicine resources.
- Increase the work of sanatorium and develop eco-tourism.
- Take comprehensive measures to prevent impacts of
- Prepare and implement effective environmental impact evaluation plan of activities that can effect biodiversity.
- Take measures to prevent environmental pollution that threatens biodiversity.
- Take measures to secure biology.

- Restore destroyed ecosystem, prepare comprehensive and rational basin plan and improve the management of basins.

Priority Projects (12-17)

Project 12

Title: Restoration of Degraded Forest Ecosystem by Tree Planting.

Objectives: To restore destroyed and damaged forest due to natural disaster in recent years, as soon as possible, and increase diverse tree seedlings to 1-1.5 billion.

Justification: 80% of land is mountainous in DPRK and it rains heavily in summer due to low atmospheric pressure occurring from down river of Janggang in China which brings some damages to adjacent agro-ecosystem and forest ecosystem. It is, therefore, necessary to produce tree seedlings for afforestation in short time.

Activities:

- To prepare and promote restoration options for damaged forest ecosystem.
- To modernize 10 tree seedling nursery farms for afforestation of 2 million ha.
- To enhance research work in tree breeding and seedling nursery.
- To increase the capabilities of local forest managers in these regions.
- To establish ecological corridors in destroyed ecosystem to link protected areas.

Implementing Agencies: Ministry of Land and Environment Protection, Ministry of Forestry.

Stakeholders: People's Committee of local government, Academy of Sciences.

Timing: 3 years.

Budget: Category II.

Project 13

Title: Demonstrations for eco-farming and Recycling Use for Agricultural Resources.

Objectives: To provide agro-ecosystem diversity and ensure a sustainable use for agricultural resources by establishing demonstrations for eco-farming and recycling agriculture that are suitable to local geography and ecological features.

Justification: Soil appropriate for agriculture in DPRK is limited and its fertility is not high due to lack of organic resources. Besides, there is a great danger of threat of soil erosion due to seasonal and regional partiality of precipitation distribution. Therefore, it is necessary to establishing eco-farming

demonstrations, in order to mitigate above mentioned threat.

Activities:

- To prepare strategy and action plan for eco-farming and recycling agriculture.
- To maintain biodiversity in agricultural ecosystem and take measures to increase the fertility of cultivated land.
- To introduce organic agricultural method and effective bio-chemicals.
- To introduce management system of agro-forestry and combined agro-forest-livestock.
- To develop grassland in accordance with geographical features.
- To establish biological exterminating method of blight .
- To popularise the theory and technology of eco-agriculture.

Implementing Agency: Ministry of Agriculture.

Stakeholders: Academy of Sciences, Ministry of Land and Environment Protection.

Timing: 5 years.

Budget: Category I.

Project 14

Title: Protection and Increase of Fishery Resources and Biodiversity of Freshwater and Marine

Objective: To make sustainable use by protecting and increasing fishery resource with high productivity and economic value, which takes great part in solving people's food problem, and meanwhile to protect water environment.

Justification: Increase of biological productivity of territorial waters and sea is prerequisite for improving the people's diet. However, fish resources are decreased due to changes in marine condition and lack of managing capability for resources. Therefore, it is necessary to strengthen the protection and increase of marine resources and eco- environment of waters.

Activities:

- To survey the status of fish resources in freshwater and near seas, regularly.
- To establish hatchery for anadromous fish including salmon and trout, and increase of releasing rate.
- To modernize summer seed planting place of seaweed.
- To take comprehensive survey for eco-environment of waters where productivity has declined.
- To develop capacity building of technicians on mariculture.

Implementing Agency: Ministry of Fishery.

Stakeholders: Academy of Sciences, Ministry of Land and Environment Protection.

Timing: 6 years.

Budget: Category II.

Project 15

Title: Protection and Increase of Koryo Medicines Resources.

Objectives: To use sustainably the main medicinal plants used in Koryo medicines.

Justification: Despite the demand for Koryo medicine is being increased, the eco-environment for herb resource is being destroyed. There are other factors that bring herb resource reduce, so that the medicine does not meet its demand in market.

Activities:

- To prepare protection strategy of Koryo medicine resources.
- To improve management level for herb protected area.
- To investigate appropriate place for artificial cultivation for herb resources.
- To create 6 projects for herbal production construction.
- To enhance public awareness on herbal protection and its sustainable use.

Implementing Agency: Ministry of Public Health.

Stakeholders: Ministry of Land and Environment Protection, Academy of Sciences.

Timing: 4 years

Budget: Category II.

Project 16

Title: Afforestation of City Environment.

Objective: To increase quality of biodiversity of city environment by harmonizing parks, recreation ground and forest within cities with forests outside cities.

Justification: It is impossible to provide people with appropriate environment suitable to people's health without promoting afforestation in high dense cities.

Activities:

- To prepare the national strategy of city afforestation.
- To develop a design for rational distribution of city greenery and diversify composition.
- To improve the capacity of breeding farm and seed farm to afforest city.
- To create tree sapling farms.
- To improve the management of city greenery.

Implementing Agency: Ministry of Land and Environment Protection, Ministry of City

Management.

Stakeholders: Academy of Sciences, People's Committee of Local Government

Timing: 5 years

Budget: Category II

Project 17

Title: Demonstration for the Sustainable Development and Biodiversity Conservation in Chongchon River Basin by Setting up Buffer Zones.

Objective: To generalize methodology by establishing a model for biodiversity conservation and sustainable development including the designation of buffer zone in Chongchon River basin, one of the heavy rain areas.

Justification: Mt. Myohyang natural park is located in the Chongchon River basin and Mundok migratory bird (wetland) reserve is situated at the lower part of the river. Chongchon River area is the main habitat for silver fish. The basin is surrounded with industrial areas with high precipitation, hence, there is a great danger of damage due to flood. Therefore, it is of national significance to combine eco-environmental protection and sustainable development.

Activities:

- To take a comprehensive survey on biodiversity in Chongchon River basin.
- To prepare comprehensive development plan for Chongchon River basin which integrates biodiversity conservation.
- To establishment Mt Myohyang Nature Park and manage buffer zones.
- To protect fishery resources in Chongchon River.
- To afforest Chongchon River basin.

Implementing Agency: Ministry of Land and Environment Protection

stakeholders: Ministry of Forestry, Ministry of Education, Ministry of Agriculture Academy of Sciences.

Timing: 4 years

Budget: Category II.

3. Benefit sharing of biodiversity

Strategy description

It is important to share equally the benefits from bio-resources which is of regional characters among the regional organizations. Besides, it is also important to develop traditional knowledge, renovation and practice. Establishment of information network for biodiversity and information exchange organization, and supply of above-mentioned information to personnel and organs who need it necessarily are important too.

Actions:

- Quantify the economical value of biodiversity of relevant regions and provide much benefits to the wide users of bio-resources.
- Highly praise the models of biodiversity protection and sustainable use and generalize it.
- Establish national data base and information network for biodiversity conservation and information exchange organizations.

Priority Project(18)

Project 18:

Title: Establishment of National Biodiversity Information Centre.

Objectives: To establish national biodiversity information centre and biodiversity data bases and to collect and exchange scientific data on ecosystem, gene and species resources and habitats.

Justification: At present, biodiversity relevant data are dispersed and it is not scientifically analyzed, hence unable to use it effectively. To establish biodiversity data base and operate information networking, it is needed to establish a national biodiversity information centre.

Activities:

- To establish a new national biodiversity information centre.
- To collect all the scattered biodiversity relevant data and file it up properly to use it by GIS.
- To train experts to establish data bases and operate the information system..
- To promote use of biodiversity databases in policy-making.

Implementing Agency: Ministry of Land and Environment Protection

Stakeholders: Academy of Sciences, Ministry of Agriculture, Ministry of Forestry, Ministry of Fishery, Ministry of Public Health.

Timing: 4 years.

Budget: Category II.

4. General measures

Strategy description

Economy in DPRK is managed according to socialist economy plan. Biodiversity conservation should therefore, be included in planification and unification of national economy. When biodiversity conservation is included in general plan of land construction it is possible to provide linkage between sectors and avoid duplication.

In order to fully promote biodiversity conservation and its sustainable use it is important to

strengthen scientific research and encourage education and public propaganda activities. It is also important to strengthen support financial organs related to biodiversity conservation and sustainable use.

As biodiversity conservation is a transboundary issue, it is important to cooperate the implementation of the Convention, ratify relevant Conventions and Agreements, and strengthen regional and international cooperation.

Actions

- Include biodiversity conservation issue in planification and unification of national economy and implement it.
- Include biodiversity conservation in general plan of land construction and establish demonstration site of conservation and development.
- Strengthen scientific research on biodiversity.
- Strengthen education and propaganda of biodiversity conservation.
- Take measures to increase investment to biodiversity conservation.
- Strengthen regional and international cooperation in biodiversity conservation field.

Priority projects (19-20)

Project 19

Title: Development of Local Biodiversity Conservation Plan

Objective: To develop specific local plan on biodiversity conservation and sustainable use and incorporate biodiversity into local economy and to develop socio development plan and land management plan.

Justification: Since biodiversity has regional characteristics, it is important to develop some special local biodiversity plan which accord with local conditions and reflect the National Economic Development Plan.

Activities:

- To prepare some provincial level plans on biodiversity conservation and sustainable use.
- To identify local significant area for biodiversity conservation in provincial plans and develop provincial plan on nature reserve construction.
- To collect data and information on status of bio-resource use in provinces.
- To take measures to conserve bio-resources and its proliferation in local/provincial level.

Implementing Agency: People's Committee of Provinces.

Stakeholder: Ministry of Land and Environment Protection.

Timing: 1 year

Budget: Category III

Project 20

Title: Development of National Biodiversity Training Programme

Objectives: To train scientists, technicians, administrative officials, local officials and reserve managers, in order to ensure biodiversity conservation and sustainable use and to strengthen enabling activities.

Justification: The scope of biodiversity conservation and its sustainable use is too large, hence, it is very important to be aware of national status and international trend. At present, the management level in the existing reserves is very low and it is significant to the staffs. And it is also needed to train local people how to conserve biodiversity.

Activities:

- To establish 3 biodiversity training centres in selected universities and institutes under the Academy of Sciences.
- To equip with facilities in training centres
- To develop series of training materials.
- To organize regular training courses.
- To allocate qualified teachers, technicians, and managers.
- To send young people to study abroad.
- To invite foreign experts to give lectures.

Implementing Agencies: Ministry of Education, Academy of Sciences.

Stakeholders: Ministry of Land and Environment Protection, Korean Nature Conservation Union.

Timing: 5 years.

Budget: Category III.

Chapter 5. National Monitoring and Assessment Mechanisms for the Convention's Implementation.

5.1. Establish and enforce monitoring mechanism for the Convention's Implementation.

DPRK has prepared Strategy and Action Plan on biodiversity conservation and sustainable use to implement the Convention on Biodiversity.

It is very important to strengthen national monitoring in order to fully implement Action Plan and options and the Convention on Biodiversity.

5.1.1. Promote the functions of monitoring and controlling for biodiversity conservation by the Ministry of Land and Environment Protection.

After the first meeting of the 10th session of the Supreme People's Assembly, Ministry of Land and Environment Protection is strengthened, hence, it could further promote monitoring and controlling of living environment and nature environment.

The scope of biodiversity conservation and sustainable use is very vast, so relevant organs and local administrative organs should fully carry out their responsibilities. Besides, the Ministry of Land and Environment Protection should organize activities relating to biodiversity conservation and sustainable use in close relationship with relevant organizations and local administrative organs, and fully carry out its responsibilities of monitoring as a responsible agency.

It is essential for the Ministry of Land and Environment Protection to prevent the biodiversity loss before hand and in case of damage and destruction, take immediate measures to restore it.

5.1.2. Monitor and control the execution of laws on biodiversity conservation and sustainable use.

The Standing Committee of the Supreme People's Assembly of DPRK monitors the obedience and execution of legislations by the state organs and takes follow-up measures.

The Standing Committee of the Supreme People's Assembly not only carries out the activities to implement the laws and legislations on environment protection but also accedes to international conventions and evaluates Government activities to implement the Convention.

Biodiversity conservation and sustainable use is closely linked with the execution of the Law on Environment Protection, Law on Forestry and Law on Fishery, as a result, it is essential to strengthen further the legal monitoring functions to implement the Convention on Biodiversity.

5.2. Assessment Mechanism for the Convention's Implementation.

5.2.1. Strengthen the evaluation of Committee for Environment Protection Control of Cabinet.

The Committee for Environment Protection Control of Cabinet in DPRK is a coordinating organ which discusses all the national issues rising from improvement and strengthening the

environment protection and takes necessary follow-up measures. The Committee for Environment Protection Control, since the ratification of the Convention on Biodiversity, has paid special attention on biodiversity conservation during last years.

Under the circumstances that responsible officials in charge from various Ministries are involved in the Committee for Environment Protection Control, it monitors and assesses the policy execution of relevant sectors on biodiversity conservation and sustainable use, coordinates the relationship of sectors and takes measures to strengthen the work.

5.2.2. Public Assessment on the Convention's implementation.

Biodiversity conservation and sustainable use is a noble work to hand over beautiful and abundant natural resources not only to present generation but also to future generation.

Biodiversity conservation and sustainable use can be implemented fully only when broad masses participate in this work with a high sense of responsibility. Hence, public assessment on this work is very important. Scientists and technicians in these fields should always pay great attention on national measures and lead the van of its implementation. That is the reason why the Cabinet should organize and take necessary measures to adapt and review creative options of exports relating the implementation of the Convention on Biodiversity. In addition to this, experts should organize seminars on effective implementation of the Convention on Biodiversity and propose valuable opinions which can give great help in national policy making.

5.3. Summarise and share national experience of the Convention's implementation.

Each Contracting Party to the Convention on Biodiversity shall, in accordance to its political, economical and cultural characteristics, make up its policy reflecting the demands of its people and conditions the country and implement it.

DPRK, though acceded to the Convention on Biodiversity at late, has accumulated success in biodiversity conservation and sustainable use. Despite continuous natural disaster and economical difficulties after the ratification to the Convention on Biodiversity, it has somehow gained success and experience through sincere effort to implement the Convention on Biodiversity.

5.3.1. Enforcement of national legal basis for biodiversity conservation and strengthen Governmental organization.

DPRK, after its ratification to the Convention on Biodiversity, has embodied and supplemented the content of Article 57, Chapter 5 of the Law on Socialist Constitution to protect environment before production (6 Sep. 1998). By enforcing the national legal basis for the Law on Environment by sectors, it adopted the Law on Forestry in Dec. 1992, hence, could promote afforestation, protection and management of forest ecosystem and forest resources. Besides, it adopted the Law on Fishery in Jan. 1995, Law on Water Resources in June 1997 and the Law on Sea Pollution and its Prevention in Oct. 1997, as a result, it could protect and increase the marine resources and marine eco-environment of all the waters.

It is possible to achieve success in the implementation of the national legislations only when all the people participate in this field consciously and voluntarily. The Government of DPRK not only adopted detailed regulations of all the laws including the Regulation on Executing

the Law on Environment Protection in Sep. 1995. but also adopted State and Government joint decision in Aug. 1995 to make whole countryman participate in the land construction work every spring and autumn, and is implementing this work by specifying the areas into south zone, north zone, low plateau and high zone.

DPRK promotes the content of education through the Ministry of Education to combine education with practical exercises by generations. Besides, non-governmental organizations also execute many works through good-thing-doing.

5.3.2. Specification of relevant administrative mechanism for biodiversity conservation.

The Government of DPRK has strengthened the Ministry of Land and Environment Protection at the 1st Session of the 10th Supreme People's Assembly in Sep. 1998. and took radical measures to provide harmonization of protection and management between city ecosystem and natural environment, and to combine scientific research work and technical administration work organically.

Through the unification of the Ministries, it came easier to manage the recreation ground and reserves, and national parks in reserves and provide hygienic and cultural life to people by promoting greening and planting of cities as one of the important part of land construction.

Besides, it specified the work of protection and management and organized the work according to the objectives of utilization though the characters are similar. For example, the Ministry of Forestry is in charge of management, protection, control and creation of forest in 3 Provinces in the North which are comprised with industrial forest and the remainings are in charge of the Ministry of Land and Environment Protection. The Ministry of Forestry is in charge of organizing management of industrial forest in cities and counties and the Ministry of Land and Environment Protection is in charge of forest management.

The Academy of Sciences not only controls the scientific studies but also controls scientific, technical administrative works of every ministries, hence, promote scientific and technical work unilaterally in this field.

The smallest unit of management, for the successful execution of natural environment protection and land management is more specified in details in cities and counties where they have located inspectors to monitor and manage comprehensively the forest, river and stream in several *ris*.

All the large constructions and development in DPR Korea should be carried out with the agreement of the Ministry of Land and Environment Protection, hence, is now almost in completion of establishing the basic system of evaluating environmental impacts.

Detailed improvement in administrative rearrangement guarantees greater success in various fields of biodiversity.