SPECIAL ISSUE
The Prospect of Korean Agriculture in the 21st Century (1)

VISION OF FORESTRY AND ITS ASSIGNMENT

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ABSTRACT

This study tries to set a new vision of forestry which can satisfy a sustainable development of forestry of the 21st century, and also discusses the assignments of forestry for realizing the new vision of forestry. The new vision for the 21st century is established as "the construction of a forestry country for the affluent life of the people." Under this catch phrase, three main concepts are included the creation and conservation of sustainable forest ecosystems, forestry and its related industries raised as high technology industries, providing various forest services for abundant people's lives. The results of this study can be used as basic information for directing a long-term forest policy because this study was conducted based on the changes of the environments surrounding forests in the 21st century.

I. Introduction

The forestry sector needs to alter the prospect and paradigm of the policy facing a new millenium, because the forest policy of 20th which century mainly focused on the plantation and protection of forest resources may not be appropriate for satisfying the need by the multiple uses of forest resources. Therefore, the change of forest policies which are fitted to the

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new environment surrounding forestry should be required.

The forest policy of the 20th century was mainly focused on the restoration of the mountains which had been ruined during the period of the Korean War and Japanese colonization. Therefore, the major tools of forest policy are planting trees and restricting the cutting of trees. As the results of strong policies of conserving forests and planting trees, Korea became the most successful country of restoring mountains in the world.

A forest policy of the new millenium can be important from the viewpoint of the forest history because it should satisfy the demand of the people by utilizing successfully planted forests during the 20th century. Therefore, a future oriented policy in the forestry sector should be established for satisfying newly developted demands for forestry from the people.

Therefore, this study tries to set a new vision of forestry which can satisfy a sustainable development of forestry in the different society of the 21st century, and also discusses the assignments of forestry for realizing the new vision of forestry.

II. The Prospect of Forestry in the 21st Century

1. The Changes of Circumstances Surrounding Forestry in the 21st Century and its Prospect

It is prospected that major changes will happen in the field of forestry in the 21st century. First of all, the demands for the forest resources will be significantly increased in the 21st century because the society of 21st century will pursue a sustainable development. Secondly, recent technical progresses such as genetic engineering possibly turn forestry and forest industry into high-technology industries. Third, the forestry and forest industry can be highly competitive industries in the information-oriented society. Finally, mountain villages will be an attractive residential area because of the development of communication facilities and information systems.

The major changes of the Korean forestry will be the

increase of stock volumes. However, the concern will be the demage of bio-diversity and movement of vegetation belts due to the climate changes. In addition to these changes, the social changes of the 21st century make the paradigm of the current forest policy no longer appropriate. Also the increased attention of the global environmental conservation makes the forest policy to be established in an international viewpoint rather than a domestic viewpoint.

The stock volume per ha of the whole country will be increased from 56㎥ in 1998 to 162㎥ in 2050. However, the forest land will be decreased from 6,436 thousand ha in 1998 to 6,288 thousand ha in 2050 (Table 1).[1] The structure of tree ages will change from 80% of the share of less than 30 years in 1998 to 29% in 2050.

The demand and importance of timber resources will be increased by the increase of population and degradation of global environments. The domestic demand of timber resources will be increased from 20 million ㎥ in 1998 to 49 million ㎥ in 2050. In order to satisfy the growing demand of timber resources, the long-term timber supply system should be prepared and the waste timber resources should be efficiently utilized. Also, in order for mitigating climate changes, fossil fuels need to be replaced by renewable natural energies and biomass.

Since the demand for services from forest ecosystems will be increased, the way of managing forests need to be changed to supply them to meet the demand. For example the deficit of water resources will be revealed in the 2000, and the water absorbing ability of the forest will be important for securing water resources.[2]

Due to the urbanization, the role and demand of urban forests will become significant. Therefore, the forest policy

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[1] Korea Forest Service anticipated forest area will be decreased to 6,288 thousand ha in 2050 (Korea Forest Service 1999, 19).

[2] The deficit of water resource will be 3 billion tons in 2011, while the surplus of water resource was 2.3 billion tons in 1995 (KREI 1999, 51).

TABLE 1. The Prospect of Major Forest Related Indices in the 21st Century

Classfication	unit	'98	2010	2020	2030	2040	2050
○ forest area	thousand ha	6,436	6,359	6,317	6,292	6,283	6,288
- forest area per capata	ha	0.14	0.13	0.12	0.12	-	-
○ accumulation per ha	m^3	56	87	111	131	148	162
○ economic forest	thousand ha	2,365	2,845	3,235	3,500	3,500	3,500
- man-made forest		2,122	2,242	2,332	2,400	2,400	2,400
- nurtured natural forest		243	603	903	1,100	1,100	1,100
○ The structure of tree age (practice forest)	%						
- under 30 years old		80	56	32	26	26	29
- over 30 years old		20	44	68	74	74	71
○ the demand and supply of timber							
-total timber demand	thousand m^3	19,537	29,756	35,886	41,850	46,135	49,526
- timber supply	thousand m^3	19,537	29,756	35,886	41,850	46,135	49,526
- The degree of self-sufficiency	%						
· Total self-sufficiency in timber(TSST)		7.3	9.5	16.8	22.4	24.2	30.0
○ Forest environment							
- The amount of carbon stock	million TC/year	174	304	389	461	521	569

Source: Proceeding Korea Forest Service (1999)

regarding the urban forest will be an important issue.[3]

The demand for forest recreations will be increased steadily due to increasing leisure times and rising level of economies.[4] Therefore, the services for providing forest recreations will be an important issue too.

[3] The urbanization rate will be increased from 87% in 1997 to 92% in 2020. Also, due to the reform of administrative region, the urban forest expanded from 540 thousand ha in 1993 to 2,340 thousand ha in 1998. (KFS 1999, 41)

[4] the number of visiting recreation forest sites will be increases from 2.61 million persons in 1997 to 9.80 million persons in 2020 (KFS 1999, 46).

2. The demand and role of forestry in the 21st century

The major task of the forestry in the 20th century was rehabilitation of forested areas and mountains ruined during in the period of the Korean War and the Japanese colonial state. In order for replanting and rehabilitating mountains rapidly, the forest policy was mainly focused on the restriction of the usage of forest resources. As a result of strong conservation oriented policies, Korea became the most successful country rehabilitating ruined forested areas. However, the forest police of the 20th century which is considered as a restriction policy will not be appropriate for satisfying the demand for the services from forest ecosystems. Therefore, a new paradigm for the 21st century should be created.

The demand and role of forestry in the 21st century will be different from those of the 20th century as follows.

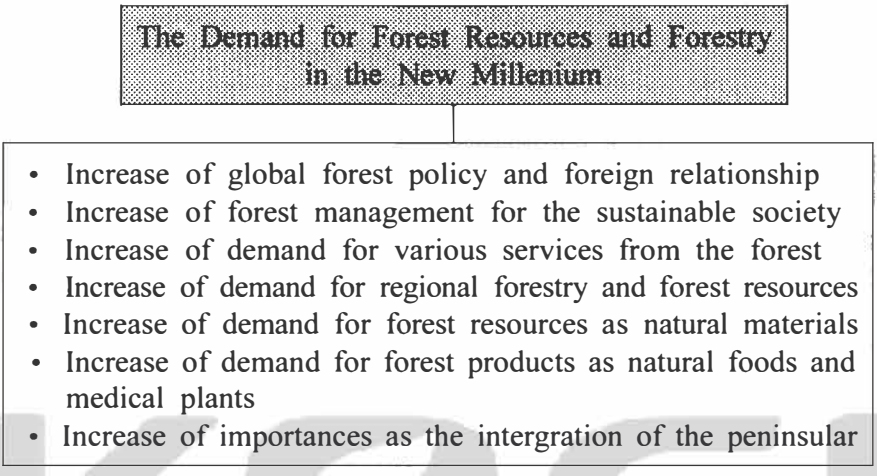
First, the demand for global scale and internationally related forest policies will be increased because the environment problems such as becoming desert, global warming, and air pollution can not be solved by efforts of a single country.

Secondly, the demand for managing forest for a sustainable society will be significantly important. The strategy for conserving forest ecosystems is a good example of a management method securing sustainability of the society.

Third, the demand for various services from forest resources will be increased. The need for recreation spaces such as eco-park, forest experience park, and traditional cultural park will be increased. The demand for mountainous areas will be increased because environment oriented industries such as clean industries will be expanding and the demand for pleasant sites will be increased too.

Fourth, the demand for regional forestry will be increased by realizing localization. The regional government will utilize regional and local resources efficiently for the local economy due to the localization. Therefore, the development and usage of regional forests and forest sites will be an important issue.

FIGURE 1. The Demand for Forest Resources and Forestry in the New Millenium



Fifth, as the society converts to a knowledge and information based society, the demands for information and knowledge in the forestry will be increased too. Therefore, the forest industry need to be changed from a conventional industry to a technology-intensive industry by utilizing highly developed technologies and well connected information networks.

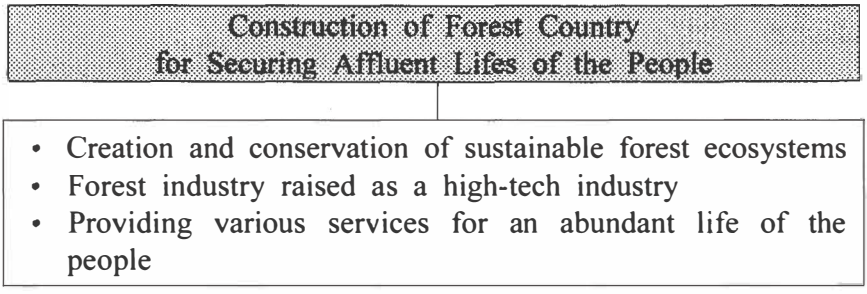
Sixth, the demand for forest products as natural materials, natural foods, and medical materials will be increased. The demand for timber resources will be increased because timber resources will substitute artificial materials such as concrete and petroleum products. These can be possible as the technologies such as extraction and transformation of materials advanced.

Seventh, as the reunification of the Korean peninsula realizes, a new strategy for managing whole forests and mountains in Korean peninsula will be needed.

3. The Vision of the Forestry for the 21st Century

In order to satisfy the new demand and role of the forest resource and forestry in the 21st century, a new vision for the

FIGURE 2. The Vision of Forestry for the New Millenium



forestry should be created. The important thing to be considered for the new vision of the forestry is considering not only the economic and environmental function of the forest resources but also services provided for the people. Therefore, the new vision for the 21st century established as "the construction of forest country for securing affluent lifes of the people". Under this catch phrase, following concepts are included - First creation and conservation of sustainable forest ecosystems, second forestry and its related industry raised as a high- tech industry, third providing various services for an abundant life of the people.

III. Policy Tasks for Realizing the Vision of the 21st Century's Forestry

In order to realize the vision of forestry of the 21st century, following tasks need to be launched. The policy tasks are ① ecological usages of mountains and improvements of management systems, ② creation of sustainable forest resources, ③ providing various services from forest resources to the people, ④ management of the national forest to meet the demand of forest resources from the people, ⑤ creation of management bases and activation of managements of the private forest, ⑥ raising forest industries as forest material industries, ⑦ raising forest industries as mixture of agriculture, forestry, and livestock industries, ⑧ raising forest industries as the 21st century style high-tech

TABLE 2. Policy Tasks for the Realization of the Forest Vision for the 21st Century

Main tasks	Detailed tasks
① Ecological usages of mountains and improvement of management systems	○ Introduction of the ecological development of mountains ○ Alleviation of the conversion regulation of mountains ○ Improvement of mountain management systems for unified districts of mountains
② Creation of sustainable forest resources	○ Improving forest structures as sustainable forests by creating economically sound forests ○ Conservation of genetic resources of forests and improvement of the supply system of seeds and seedlings ○ Expansion of the conservation district of forest ecosystem ○ Construction of scientific forest disaster system
③ Providing various services from forests to the people	○ Solidification of forest management system for enhancing a green dam function ○ Enhancing a storage function and absorption function ○ Improvement of supporting systems and introduction of management planning systems for urban forests ○ Creation of recreation systems and expansion of recreation facilities
④ Management of the national forest to meet the demand of the people	○ Establishing identification of national forest managements ○ Establishing efficient managements of national forest management systems ○ Activating utilization of national forests for meeting the demand of the people
⑤ Creation of management bases and activation of management of the private forest	○ Introducing selective supporting systems based on the management willingness of the forest owner ○ Raising various management bodies of the private forests ○ Systematic incubation of forest cooperatives, forest corps, and forest operation groups ○ Preparing supporting systems for the stable management of the private forest

Main tasks	Detailed tasks
⑥ Raising forest industry as forest material industry	○ Raising current timber processing industries to competitive material processing industries ○ Raising new material industries utilizing timber resources
⑦ Raising forestry as mixture of agriculture, forestry, and livestock industries	○ Raising forest industries as material cycling industries ○ Practicalization of agroforestry practice ○ Increasing competitiveness of domestically produced forest products ○ Improvement of forest product market systems
⑧ Raising forest industry as a 21st century styled high-tech industry	○ Raising forest industries as advanced life industries ○ Raising forest industries as high-tech industries
⑨ Creation of pleasant and vital mountain villages	○ Establishing the role of mountain villages as the defender of country sides ○ Creation of propelling systems for establishing new mountain villages
⑩ Improving international relationships and creating forest policies for the reunified Korean peninsula.	○ Improving international relationships in the global century and concreting foreign relationships ○ Expanding exchanges between North and South Korea ○ Establishing forest policies for the unified Korean peninsula

industries, ⑨ creation of pleasant and vital mountain villages, ⑩ improving international relationships and creating forest policies for the reunified Korean peninsula.

1. Ecological Usages of Mountains and Improvement of Management Systems

In order to harmonize the utilization and conservation of forest resources in the 21st century, following policies for ecological usages and managements of the mountains should be launched. The new institutions will be needed to prevent conversions of

mountain areas and develop mountain areas ecologically. Especially, special incentives for the ecological development of the mountain areas should be provided for the users.

Second, regulations for the conversion of the mountain areas should be loosened and the permission processes for the conversion of the mountain areas should be unified. However, in order for preventing misdemeanors in the conversion of the mountain areas, the ecological ways of converting mountains should be provided.

Third, the rational utilization systems of mountains should be established. Mountain management systems should be changed from present systems of production, public benefits, semi-preservation to composite and systematic management systems.

Fourth, in order to establish composite mountain management systems, the management districts should be clarified by way of considering economic and ecological characters. The next stage will be the establishment of mountain management systems for the specific districts.

For the success of mountain management systems, a program for listening to the demand from the people should be prepared and utilized for adjusting management systems by feedback systems.

2. Creation of Sustainable Forest Resources

In order to manage forest resources by way of ecological concepts and create sustainable forest resources, technical systems of forest managements should be consolidated first. Second, forests with valuable genetic resources should be conserved by the designation of conservation districts. Also in order for conserving genetic resources of forests, the facilities such as arboretums, botanical gardens, and gene banks need to be expanded. The supply system of tree seeds and saplings should be improved by way of reforming supply systems.

Third, the systems of investigation and management for conserving forest ecological systems need to be improved by way

of establishing information networks for forest resources.

Fourth, forest disaster preventing systems such as forest fire forecasting and preventing systems should be established. Also, forest disease and insect control systems should be improved for keeping the balance of forest ecosystems. Damaged forest ecosystems should be rehabilitated by way of near natural rehabilitation methods.

3. Providing Various Services from the Forests to the People

There are several projects provided for fulfilling the demand of the people and providing services to them.

First, the watershed management system for five grand rivers are needed for maintaining the water absorbing function and water quality conservation function of the tree. In order to strengthen the green dam function of the forest, information systems for the water and watershed complex need to be established. Also, the compensation and support systems need to be established for the forest which contains water absorption functions.

Second, the enforcement of the forest policy need to be propelled for enhancing the carbon absorption abilities of trees. Following enforcements- developing tree species that absorb a large scale of carbon, expanding thinning and cutting for absorbing more carbon- are possible. Also, the industry need to plant more trees and raise them for securing more carbon discharge rights.

Third, the planning and management policies for urban forests need to be introduced and their supporting systems need to be improved. For setting up the management policies, the survey for urban forests is needed. Also, creation and improvement of urban forests are necessary for enhancing their function of conserving life environments and promoting recreations for health. The laws and institutions for the efficient management of urban forests need to be improved. Also, institutions for the people participating in the management

programs of urban forests need to be improved.

Fourth, the areas for forest recreation and culture need to be expanded. The recreation districts for local areas and connecting systems for recreation spots should be created and proper recreation districts should be allocated. Various facilities and special characters for certain recreation areas need to be expanded by investigating special characters of local areas and certain recreation districts. The services of providing recreation services for the people need to be improved by setting up information systems of forest recreation services.

4. Management of the National Forest to Meet the Demand of the People

In order to establish the management system of the national forests for fulfilling the demand of the people, following tasks are need to be launched.

First, the management strategy for the national forests should be distinctive to that of private forests. The management purpose of the national forest is basically to provide public goods such as forest culture, ecosystem, forest environment which may be difficult to be provided by the private forests. Therefore, the management strategy of the national forests tries to satisfy the demand which is different from the private forests of the people.

Second, The national forest related laws and institutions should be improved for acquiring the identification of the national forests. The new law for the management of the national forest should be changed from the way of managing forest assets to the real management of forests by separating from the current forest law. The new law for managing the national forest should contain the role of the national forest, basic policies, management purposes, and management principles. Also, the identification and role of the national forest should be clarified by the establishment of fundamental management plans for the national forest.

Third, the management of the special account for the national forest need to be improved for acquiring stable investment sources for managing the national forest. Scattered

national forests should be sold for acquiring investment sources. Also, the forest near the city areas should be sold for acquiring forests near hinterlands for the purpose of massive managements. Since the national forest provides a large scale of public services for the people, the ordinary expenditures need to be supported by the general accounts rather than the special account for the national forest.

Fourth, the organization for the national forest management should be operated efficiently. To manage more efficiently, the management part which can be out-sourced should be out-sourced to the private, while the area which can not be out-sourced should be managed by the management offices. The roles of the district forest service and the district forest office should be re-adjusted for the efficient management of the national forest. The district national forest service sets up management plans, makes polices, and monitors policy applications, while the district office of the national forests carries out the projects and provides services for the people.

Fifth, in order to settle down the responsible management system of the national forest, the actual rights and duties regarding managements should be released to the field managers. Also, incentives for outstanding managers and officials should be provided for promoting the efficiency of managements. The monitoring and evaluating systems for the management of the national forest need to be activated for the same reason.

Sixth, the national forest should provide certain services which can not be provided by private forests. Those services can be environments and cultures from the forest. The designation of the conservation forests which contains gene resources and promotes biodiversities should be expanded. Especially, the natural forests along the Bakdoo mountains are worthwhile to be protected. To prevent the extinction of the species, several activities such as formulation of databases for the information and conservation plans for the species should be established. Also, management techniques which maintain and raise environmental values should be developed and propagated.

Seventh, forest-cultural remains within the national forest should be excavated and restored for the development of forest cultural events. The recreation forests should be developed by considering the natural and social conditions of local areas. The educational facilities of the forest for the young people should be developed. Also, the facilities for the old people such as a silver town and forest recreation city need to be established.

Eighth, the reasonable management strategy for the national forest should be considered. The opinion from the NGO and people should be incorporated in the process of forming policies by hosting public hearings. Also, the monitoring process of the policy should be opened to the publics for enhancing transparency of the policy. Since a "Green-Owner" system can be a proper system for drawing private investments, similar systems can be started for stimulating investments.

5. Creation of Management Bases and Activation of Management of the Private Forests

For constructing management basis for the private forest, following policy tasks should be launched. First, the supporting systems for the private forest owners should be differentiated by each forest owner's eagerness of the management. Since the current supporting system is indifferent in any case, inefficiency of the supporting system has been revealed. For example, the forest owner who set a management plan for his mountain should be supported enough for managing because he is willing to manage and invest to the forest.

Second, various forms of principal bodies for managing private forests need to be reared. Self-sufficient foresters and young successors of forestry should be supported sufficiently for being raised as leading foresters of the regional forestry. The cooperative management system for small scaled forest holders should be improved for activating management of the small scaled forest areas. Also, management agent systems for nonresidential forest owners should be activated and stabilized.

Third, the forest related groups such as forest cooperatives,

forest corps, and forest operation groups should be systematically raised. For example, the forest cooperative need to be raised as a leading group for the management of the private forest. The forest operation group has to be raised as an actual working group for forest site works.

Fourth, the supporting system for the private forest should be prepared. The management models should be developed and popularized for forest owners who want to manage their forests by themselves. A forest insurance system needs to be activated for securing investments for the forestry. Services such as the techniques and information for the management should be provided sufficiently for forest managers.

6. Raising Forest Industry as a Forest Material Industry

Since materials made from timber resources are required to be substituted by all sorts of materials which are not made from renewable resources, timber processing industries can be an important material processing industry. However, new technologies should be developed for converting and raising current timber industries to the new material industries because there is a limit to current technologies. Therefore, investments for developing materials need to be increased including human powers. Also, financial and administrative supports for the industrialization of material processing should be provided.

7. Raising Forestry as a Mixture of Agriculture, Forestry, and Livestock Industry

Since the demand for the agricultural products produced by organic farming will be expanded, the demand for forest products besides timber resources will be expanded as well. Therefore, a new producing system of forest products should be established because the current producing system which produce a small amount locally may not supply enough for satisfying the rising demands. The new producing system should be a system which produces a large amount of the products.

The management system of agroforestry is managing

mountain areas efficiently for maximization of the production by mixing agriculture and forestry practices together. In order for applying agroforestry practices to the practical usages, the techniques for practicing agroforestry should be developed and propagated. Also, practical management models for agroforestry practices need to be developed and propagated. Various support programs for agroforestry practices should be arranged and provided.

Since the demand for the agricultural products produced by organic farming is growing, the organic farming practice needs to be brought up. The connection and combining of agriculture and forest is necessary to develop organic farming practice. For instance, the production system of mixing agriculture and forestry can be a circulation system by utilizing all the wastes from each producing process for other production processes as inputs. Therefore, no wastes from all production system can be produced. Since a large scale of organic materials for organic farming will be needed in the future, the method of utilizing biomass from forest resources need to be developed. Also, the utilization techniques and models have to be propagated to individual farmers and industrialized for a massive production.

8. Raising Forest Industry as a 21st Century Styled High-tech Industry

The forest industry has to utilize various materials produced from forest ecosystems for supplying materials demanded by the people. The forest industry will be a high-tech industry if it can utilize those materials. To do this, high technologies which are essential for utilizing materials should be developed. The bio- and high- technologies such as material extracting technologies and material cultivating technologies should be adjusted and applied to forest industry for producing materials necessary for maintaining human lives.

Advanced technologies of genetic engineering will be useful for developing special species such as disease- and insect-resistant and pollution-resistant species. Therefore, specific

species for fitting management purposes has to be developed by applying advanced genetic engineering technologies.

Natural materials produced from forest resources can be utilized for various purposes. The wood vinegar and charcoal can be good examples of natural materials which are utilized for many purposes recently.

The main key of turning the forest industry into technologically advanced industry in the 21st century will be the development of high technologies. Therefore, increasing investments for developing technologies are necessary.

9. Creation of Pleasant and Vital Mountain Villages

The policy tasks for creating pleasant and vital mountain villages are as follows. First, the role of mountain villages should be established for the balanced development and conservation of the country. The conservation of forest ecosystems, the succession of traditional cultures, providing spaces for recreation and study of nature, and management of the country can be important roles of mountain villages. Also, mountain villages should be raised as the space for multilateral industries including the first, second, and third industries. In addition to these, they should be raised as pleasant residential spaces by a symbiotic relation of human-beings and forests.

Second, future-oriented development plans and comprehensive policies for the mountain villages should be developed for assuring the role and function of the mountain villages. Since the mountain villages are related to and contain forests, mountains, forestry, foresters and local dwellers, they are very important for forest policies of the future. Therefore, a comprehensive policy for mountain villages should be prepared for making them the center of spaces for production, residence and industialization.

Third, institutional and legal processing systems should be established for the constitution of new styled mountain villages. New models for constructing 21st century-typed mountain villages should be developed for satisfying newly developed demands for

forests by the people. Such models can be an ecological forest city which is a new concept of developing mountain villages. To continue the development of mountain villages, the law and regulation systems for mountain village developments need to be improved.

10. Improving International Relationships and Creating Forest Policies for the Reunified Korean Peninsula.

The foreign relation in the forestry part should be solidified for enhancing international relationships in the forestry part. The way to be active in promoting international relationships is to establish relations with international organizations and participating in international agreements. Especially, the relationship with forest resource producing countries need to be expanded for securing the supply of timber resources. Also, the participation of the new Green Round should be actively performed. Foreign relationships for securing forest resources needed in the future has to be actively reinforced. Also, the support system of forest developments abroad should be prepared for stimulating foreign developments of forests.

The exchanges in the forestry part between North and South Korea should be expanded for preparing reunification of the Korean peninsula. Also, a unified forest policy should be prepared for the unified Korean peninsula in the near future. For instance, a master plan for managing forests of the unified Korean peninsula can be embodied for the systematic management of the forest in the Korean peninsula.

Ⅳ. Conclusion and Summary

This study prepared the new vision of forestry for the 21st century in order to satisfy the new demand and role of forest resources and forestry in the 21st century. The new vision of the forestry should be considered by not only the economic and environmental function of forest resources but also services provided for the people. Therefore, the new vision for the 21st

century is established as "the construction of a forestry country for the affluent life of the people". Under this catch phrase, three main concepts are included - the creation and conservation of sustainable forest ecosystems, forestry and its related industries fostered as high technology industries, providing various services for abundant people's lives.

In order to accomplish the vision of forestry for the 21st century, the scale of the forestry should be expanded from the interior and forestry itself to the global and forest related concepts. The subject of the forestry also has to be expanded from tree, forester, and forest to ecosystem, people, and advanced forest industry. The viewpoint of the forestry also has to be changed from the dichotomy of economics and environments to the complex of economics, cultures, and environments.

In order to realize the forest vision of the 21st century, following policy tasks should be launched. Those are ① ecological usages of mountains and improvement of management systems, ② creation of sustainable forest resources, ③ providing various services from the forest to the people, ④ management of the national forests to meet the demand of the people, ⑤ creation of management bases and activation of the management of the private forests, ⑥ raising forest industry as a forest material industry, ⑦ raising forest industry as a mixture of agriculture, forestry, and livestock industry, ● raising forest industry as a 21st century styled high-tech industry, ⑨ creation of pleasant and vital mountain villages, and ⑩ improving international relationships and creating forest policies for the reunified Korean peninsula.

The results of this study can be used as basic information for directing a long-term forest policy because this study was conducted based on the changes of the environments surrounding forests in the 21st century. However, the results and suggestions of this study can be different from the opinions of other experts of forestry. Therefore, all the opinions from forest experts should be converged for the progressed vision of forestry in the future. Also further studies for the detailed acting program of the policies need to be followed.

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