THE MINISTRIES

THE MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

DECISION No.62/2006/QD-BNN OF AUGUST 16, 2006, APPROVING THE STRATEGY ON DEVELOPMENT OF FOREST SEEDS IN THE 2006-2020 PERIOD

THE MINISTER OF AGRICULTURE AND RURAL DEVELOPMENT

Pursuant to the Government's Decree No.86/2003/ND-CP of July 18, 2003, defining the functions, tasks, powers and organizational structure of the Ministry of Agriculture and Rural Development;

Pursuant to Ordinance No.15/2004/PL-UBTVQH, on Plant Varieties, which was adopted on March 24, 2004, by the Standing Committee of the National Assembly of the Socialist Republic of Vietnam;

Pursuant to the Prime Minister's Decision No.17/2006/QD-TTg of January 20, 2006, on the continued implementation of Decision No.225/1999/QD-TTg of December 10, 1999, on the plant variety, animal breed and forest seed program till 2010;

At the proposal of the director of the Forestry Department and the director of the Science and Technology Department,

DECIDES:

Article 1.- To approve the Strategy on development of forest seeds in the 2006-2020 period with the following principal contents:

1. The Strategy's objectives:

a/ General objectives

To build a modern forest seed sector, ensuring the adequate supply of high-quality seeds in service of forestation demands; to apply new science and technology in the direction of using hybrid superiority, step by step applying bio-technology to crossbreeding and biodiversity preservation; to form a system of forest seed production and services, which is strictly managed and suits the market mechanism.

b/ Specific objectives:

- Seed supply objectives: By 2010, to supply 60% of seeds from recognized seed sources, of which 40% shall come from vegetative propagation for forestation; by 2015, to supply 80% of seeds from recognized seed sources, of which 50% shall come from vegetative propagation for forestation.

- Seed management objectives: By the end of 2006, to elaborate and finalize all documents on management of forest seeds; by the end of 2008, to basically achieve the technical standards on forest seeds; to complete the managerial apparatus and tools for control of forest seed quality according to the procedures of supervising the process of creation of seeds for major crops by 2007.

- Seed research objectives: to select and create many new high-yield plant varieties and seeds resistant to diseases and unfavorable conditions. To ensure that forests planted after 2020 shall yield an average of $30m^3$/ha/year for fast-growing trees and $15m^3$/ha/year for big timber trees.

- Resource objectives: By 2010, to basically have adequate officials and personnel engaged in seeding and breeding activities, including seed research, production and supply. Important technical equipment and supplies shall be modernized to be on par with those in regional countries. To form seed production

and supply networks in the direction of socialization of forest breeding activities with the participation of many sectors (state enterprises, private enterprises, households and individuals).

2. The Strategy's contents:

2.1. Orientations for forest seed production and supply

a/ Plant species prioritized for seed development:

- Group of timber trees in service of economic afforestation:

+ Big timber trees: Dipterocarpus alatus, tectona grandis, melia azedarach, pinus caribaea, hopea odorata, acacia of all kinds.

+ Small timber trees: Recognized varieties of eucalyptus, acacia, cajuputi.

Group of trees planted to enrich forests, additionally planted in tended forests: michelia tonkinensis, oaramichelia braianensis, chukrasia tabularis, cinnamomum obtuifolium, terminalia chebula, soi phang, tarrietia javanica, endospermum chinense, pygeum arboreum, senna siamea.

- Group of non-timber forest trees: Cinnamomum cassia, illicium verum, camellia sasanqua, canarium, bamboo, rattan, tram gio, pinus merkusii.

- Group of protective forest trees: Headwater protective forests shall include species of plants planted to enrich forests; for coastal land protection: Azadirachta indica, s. fotieda, casuariana equisetifolia, acacia difficilis; for submerged land protection: melaleuca, rhizophora apiculata, bruguiera, avicennia alba.

b/ Building of seed source systems

- To plan the system of seed sources throughout the country, based on the review and re-registration of the existing seed sources.

- To additionally select new seed sources to exert impact on transformation (around 2,700 ha).

- To build some 2,900 ha of breeding forests, high-quality seed nurseries in the direction: breeding forests for plant species with little genetic variation or planted on small areas, based on the selection of dominant plants for propagation materials; gamogenetic nurseries for perennial indigenous plant species in order to supply improved seeds while conserving gene sources; agamous nurseries for indigenous or imported fast-growing plant species capable of vegetative propagation so as to quickly acquire high-quality seeds and supply origin materials.

- To organize the registration of and grant certificates to, breeding forests, nurseries up to the quality standards under the regulations on forest seed management.

- To import seeds, including seeds which are insufficient in the country and new seeds for future forest development programs.

- To annually update information on seed source systems.

c/ To build systems of breeding and tissue culture nurseries: On the basis of the quantity of 760 million seedlings of different kinds, which are produced annually from seeds, cuttings and tissue culture.

- To build 3 nurseries with modern propagation technology and modern nursery technology in 3 zones, northern Vietnam, northern Central Vietnam and southern Central Vietnam.

- Provinces with forested areas ⩾ 10,000 ha/year can build a large-scale nursery each (capacity ⩾ 1 million seedlings/year).

- The number of breeding nurseries:

+ Seeding nurseries: Existing: 135, to be newly built: 65 with the capacity of 1 million seedlings/year.

+ Cuttings nurseries: Existing: 192, to be newly built: 158.

+ Tissue culture houses: Existing: 43; to be newly built: 57.

d/ To establish and commission the forest seed network under unified coordination.

- Members of the seed network include: State management agencies (the Ministry of Agriculture and Rural Development; provincial/municipal Agriculture and Rural Development Services); research and development institutions; seed source owners; seed-producing units (seeds and seedlings); seed service units and seed users.

- To operate the forest seed network on the basis of efficient management and use of seed sources already selected and recognized, with close coordination of all relevant sectors ranging from seed source owners, seed producers, seed suppliers to seed users under the control of competent state management agencies, ensuring that good seeds are supplied to users and the quality and productivity of planted forests are raised.

2.2. Orientations for forest seed research

To concentrate on priority species of forest trees in order to raise productivity by 20%-50% over the current level, attaching importance to fast-growing raw material trees, big timber trees and non-timber forest trees, imported and indigenous trees; to combine in a synchronized manner seed, selection, creation and propagation research with research into forestation methods for intensive farming and raising of the productivity of planted forests; to perpetuate the results of previous researches into seed selection and creation and apply foreign breeding techniques (biotechnology, genetic technology and new high-yield seeds).

In the 2006-2010 period: To concentrate on the selection of dominant plants, offspring assay and agamous strain assay; to prioritize hybridization research, attaching importance to hybridization by traditional methods and the application of biotechnology; to build breeding forests and nurseries for major forestry plant species; to quickly import new high-yield seeds, raising the percentage of improved seeds to over 40% and the period-end productivity of planted forests to 25m^3/ha/year for small timber trees and 10 m^3/ha/year for big timber trees.

In the 2010-2020 period: To raise the percentage of improved seeds to over 50%, concentrating on seed selection and creation for a number of species of indigenous trees and non-timber trees, widely applying biotechnology to seed selection and modern methods of propagation and seed preservation. The period-end average productivity shall reach 30m^3/ha/year for small-timber trees and 15m^3/ha/year for big timber trees.

a/ Operation areas:

- For fast-growing plant species which have basically gone through the period of species and origin assays, in the coming period, efforts will be concentrated on the selection of dominant plants, vegetative propagation, offspring assay and agamous strain assay; the building of breeding forests and nurseries towards improvement from low to high.

- To concentrate on hybridization research in order to create a breakthrough in seed productivity and quality from 2006 to 2020. To make adequate investment in biotechnology research so that after 2010 molecular crossbreeding, generic transformation, pre-embryo and agamous embryo propagation will be carried out, growth-controlling genes and timber quality as well as resistance will be identified.

b/ Equipment:

- To make intensive investment in 1-2 key labs for research into the application of new biotechnology to seed selection.

- To invest in 1-2 modern vegetative propagation establishments.

- To make comprehensive investment in 1-2 modern seed preservation establishments.

3. Major solutions

3.1. Production management and organization solutions

- Reviewing all legal documents on seed management so as to annul improper documents, finalize incomplete ones and elaborate new documents.

- Applying forest seed management regulations nationwide in order to manage the genetic quality of forest seeds.

- Applying the information and computerized system to the unified management of forest seeds nationwide.

- Implementing the forest seed production and supply management system at the central and provincial levels:

+ At the central level: The Forestry Department is responsible for managing, inspecting and supervising the production, supply and quality of seeds nationwide; planning the seed source and large-scale nursery systems; directing localities in formulating annual plans on coordination of seed production and supply activities; guiding the management and updating of seed source dossiers. The Council for Breeding Science and Techniques, experimenting units and seed quality-testing sections shall assist the Forestry Department.

+ At the local level: The provincial/municipal Agriculture and Rural Development Services (or the Forestry Sub-Departments which are assigned by such Services of the localities where the former exist) are responsible for managing, inspecting and supervising the production, supply and quality of seeds within their respective provinces, and coordinate seed production and supply. The provincial Councils for Breeding Science and Techniques and research units, seed quality-testing sections shall assist the Services.

3.2. Organization of seed production and supply

- The selection of seedlings, the building of breeding forests and nurseries can be carried out by various economic sectors, but the State shall adopt policies on investment in seed preservation and development so as to create good breeding materials. The State shall manage sources of principal forest seeds.

- The production of seeds and seedlings shall be carried out by organizations, individuals and enterprises under the market mechanism.

- The information system by informatics technology shall be organized to administer seed demand and supply with a view that good seeds shall be widely used.

3.3. Scientific and technological solutions:

- Forming a forest biotechnology center under the Forestry Science Institute, which shall be furnished with modern experimenting and testing equipment and facilities and qualified specialized researchers.

- Associating the responsibilities of regional research centers under the Forestry Science Institute with the practical forest production in localities regarding selection and creation of seeds and popularization of new seeds in localities.

- Focusing on the realization of research subjects and projects on seed improvement to raise the productivity, quality and resistance of a number of priority plant species to be used as raw materials for industry and wood furniture production, indigenous plants of high economic value and specialty plants.

- Dividing responsibilities within the system of state-run forestry research bodies in order to select specialists or form groups of specialists for long-term and intensive research into each species or groups of species of major forest plants.

- Fully qualified organizations and individuals can participate in realizing seed research subjects and projects on the basis of bidding under current regulations in order to raise the efficiency of such subjects and projects.

3.4. Human resource solutions:

- Training adequate officials specialized in forest seeds: 4-5 doctors and 7-8 masters in strain heridity and improvement for a 5-year period; organizing university training at home in forest tree improvement and sending officials overseas for training in modern biotechnology; training technicians skilled in vegetative propagation and organizing refresher courses to supplement knowledge on seed selection and propagation for engineer-degree personnel engaged in seeding and breeding activities in localities.

- Building key labs and breeding zones, seed sources and nurseries to supply adequate quality seeds for forestation.

- Enhancing the research capacity of forestry biotechnology centers, forest seed research centers, the training capacity of universities and intermediate professional schools.

- Enhancing the forest seed research capacity of efficiently operating centers of provinces, corporations and companies engaged in forestry activities.

- Building and managing the systems of data and information on and popularization of forest seeds.

3.5. Mechanisms and policies

a/ Investment and credit policies:

- The state budget shall prioritize investment in forest seed research; building of systems of seed sources (breeding forests and nurseries), hi-tech nurseries, based on the approved plannings; investment in training and re-training of officials engaged in seeding and breeding activities; investment in forestry promotion.

- Preferential credit capital shall be reserved for commercial seed production by organizations, households and individuals that borrow capital for nurturing and managing seed sources, producing and developing hi-tech seeds.

b/ Land and tax policies:

- To prioritize the allocation of good soil for research, assay and building of seed sources.

- Seed dealers shall be assigned, leased land or transferred with the land use rights under the provisions of land law; enjoy tax exemption or reduction according to current provisions of tax laws of the State.

3.6. International cooperation:

- To make full use of assistance from international organizations for research into seed improvement, conservation of forest plant gene sources, enhancement of seed capability and management, formulation of institutions and policies on seeds and development of high-quality seed sources.

- To prioritize cooperation on research, training and seed exchange with Australia and China, where exist zones with natural conditions similar to those in Vietnam and the forest seed sector develops fairly highly.

4. The total capital demand for implementation of the Strategy and priority projects:

4.1. The total funding demand for the whole 2006-2020 period: VND 778.9 billion, of which:

a/ The state budget investment in:

- Research, training: VND 180 billion:

+ Training: VND 35 billion (central budget: VND 25 billion, local budget: VND 10 billion).

+ Research subjects: VND 70 billion (central budget: VND 50 billion and local budget: VND 20 billion).

+ Key labs: VND 75 billion (central budget: VND 65 billion and local budget: VND 10 billion).

- Production service: VND 200.9 billion:

+ Building of seed sources: VND 124.7 billion (central budget: VND 40 billion and local budget: VND 84.7 billion).

+ Building of hi-tech nurseries: VND 76.2 billion

(central budget: VND 50 billion, local budget: VND 26.2 billion.

- Priority projects: VND 143 billion.

b/ Other funding sources:

- Credit capital, enterprises' contributed capital: VND 200 billion.

- International projects on varieties: VND 55 billion.

4.2. Capital sources:

To use capital from seed programs, biotechnology programs, Project 661, science non-business capital, training non-business capital of the Ministry, assistance projects of international organizations, capital from program on support for forestry sector (TFF Fund), credit capital and enterprises' capital.

Article 2.- Implementation organization

1. The Ministry of Agriculture and Rural Development:

a/ To assign the Forestry Department to organize the implementation of the Strategy on Development of Forest Seeds in the 2006-2010 Period:

- To finalize the system of normative documents and development assistance policies on forest seeds.

- To direct, inspect forest seed-related activities throughout the country in order to ensure consistency in strain management; to form a strictly controlled forest seed production and supply system. To plan the national system of high-quality forest seed sources, ensuring adequate supply of quality seeds for annual forestation plans.

- To support provinces in training personnel, providing informatics equipment with a view to enhancing their forest seed management capabilities.

b/ To assign the Planning Department:

- To elaborate annual plans on activities of forest seed production service and research, ensuring capital allocations for these activities.

c/ To assign the Science and Technology Department:

- To work out plans and inspect and oversee the implementation of programs and projects on forestry biotechnology, and forest seed research subjects.

- To recognize new seeds according to the Regulation on forest seed management.

d/ To assign the International Cooperation Department:

- To seek assistance of international projects in order to create more resources for forest seeds.

2. Provinces and centrally-run cities

Provincial/municipal People's Committees shall assign the provincial/municipal Services of Agriculture and Rural Development to assume the prime responsibility for, and coordinate with the concerned Services in, organizing the implementation of the Strategy on development of forest seeds within their respective provinces:

- To implement the normative documents on seeds, particularly the Regulation on forest seed management (in provinces where exist the Forestry Sub-Departments, they shall be assigned to organize the implementation of such Regulation).

- To form a section or appoint professionally qualified officials specialized in management of forest seeds.

- To build up and manage sources of genetically improved seeds in the provinces, ensuring adequate supply of controlled seeds in the province to other provinces.

- To develop the dealing in forest seeds in the direction of socialization with the participation of various economic sectors.

3. Other agencies and units

Depending on their respective functions and specific tasks for coordination in the implementation

of this Strategy:

a/ Research units at all levels (Vietnam Forestry Science Institute, Seed Research Center and Biotechnology Center) shall concentrate on selection, hybridization, assay of new plant seeds of high yield and resistance suitable to ecological zones.

b/ Forestry training units (Forestry University and Intermediate School and Technical Workers' Training School) shall concentrate on renewal of programs on, and methods of, training personnel specialized in forest seeds: selection, creation of new seeds, biotechnology, gene technology, molecular heridity; and technicians in propagation and nursery management techniques.

c/ Other units shall participate in conserving gene sources, detecting species of high economic value, investigating and selecting dominant plants, producing and supplying good seeds, contributing to raising the quality of forest seed sources, raising the quality of planted forests.

Article 3.- This Decision shall take effect 15 days after its publication in "CONG BAO".

Article 4.- The director of the Office, the directors of the Departments of Planning; Finance; Science and Technology; International Cooperation; Forestry; Forest Ranger; and Works Construction Management, directors of provincial/municipal Services of Agriculture and Rural Development, and heads of concerned units shall have to implement this Decision.

Minister of
Agriculture and Rural Development
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