

THE PRIME MINISTER

**Decision No. 1660/QĐ-TTg of
November 7, 2012, approving the
Scheme on development and
application of biotechnology in
environmental protection through 2020**

THE PRIME MINISTER

*Pursuant to the December 25, 2001 Law
on Organization of the Government;*

*Pursuant to the November 29, 2005 Law
on Environmental Protection;*

*Pursuant to the Prime Minister's Decision
No. 14/2008/QĐ-TTg of January 22, 2008,
approving the overall plan on development and
application of biotechnology in Vietnam
through 2020;*

*At the proposal of the Minister of Natural
Resources and Environment,*

DECIDES:

Article 1. To approve the Scheme on
development and application of biotechnology
in environmental protection through 2020
(below referred to as the Scheme) with the
following principal contents:

I. OBJECTIVES

1. General objectives:

To step up the development and application
of biotechnology in environmental protection
for raising the capacity and effectiveness of

preventing and handling environmental pollution, reducing environmental degradation, restoring the environment and improving environmental quality.

2. Specific objectives:

a/ Objectives through 2015:

- To initially increase potential for scientific research, development and application of biotechnology in environmental protection. To provide domestic retraining and advanced training for 100 scientists and managers and 150 technicians. To supplement essential equipment for a number of environmental laboratories for raising their capacity to research and apply biotechnology in environmental protection;

- To develop and apply 5-10 kinds of bio-preparations for waste treatment and register their circulation under regulations of the Ministry of Natural Resources and Environment; 2 technological processes of waste recycling and reuse; and 2 technological processes for rehabilitating and restoring the environment and ecosystems;

- To increase the assessment and control of the quality, efficiency and safety of technologies and biotechnology products applied in environmental protection in Vietnam.

b/ Objectives through 2020:

- To further research, develop and apply biotechnology products in environmental observation and quality assessment, pollution prevention, reduction and treatment, environmental rehabilitation, and efficient use

of natural resources;

- To control and assess the quality, efficiency and safety of technologies and biotechnology products applied in environmental protection in Vietnam;

- To raise the capacity of scientific research, development and application of biotechnology in environmental protection. To send abroad 50-60 people for master training and 30-40 people for doctoral training in environmental biotechnology; to train 300-400 technicians at home and train 20-30 masters and 10-15 doctors in environmental biotechnology within the framework of this Scheme's subjects, projects and tasks. To modernize 3 specialized laboratories to serve the training, research and assessment of the efficiency and safety of biotech products applied in environmental protection;

- To develop and apply 15-20 kinds of bio-preparations for waste treatment and register their circulation under regulations of the Ministry of Natural Resources and Environment; 10 technological processes of waste recycling and reuse; 5-10 biosensors or technical processes of environmental observation and analysis; 5-10 technological processes to rehabilitate and restore the environment, especially in land areas polluted by mining and mineral processing activities with persistent organic substances.

II. PRINCIPAL TASKS

A. TASK DESCRIPTION

1. To study and propose mechanisms,

policies and solutions for promoting the research, development and application of biotechnology in environmental protection:

- To study and supplement mechanisms and policies to support the development and application of biotechnology in environmental protection;

- To study and supplement legal documents in the management and promotion of the development and application of biotechnology in environmental protection;

- To study and elaborate regulations on control and assurance of bio-safety of the development and application of biotechnology in environmental protection.

2. To research, develop, apply and produce on a pilot basis biotech products in environmental protection:

- a/ To research, develop and apply biotechnology in environmental observation and quality assessment:

- To research and apply traditional and modern biotechnologies in environmental observation and quality assessment. To prioritize the research and application of molecular biology, nanobiology, heredity and bio-indicators to assess environmental quality and observe environmental indicators that greatly affect community health and environmental degradation, and assess the level of environmental pollution in some sensitive areas and places; to create rapid test kits and biosensors;

- To research and apply methods and

processes to observe and assess the quality of water, air, soil and ecosystems, especially methods of detection with high sensitivity at nanogram (ng) or smaller level of pollutants and ecotoxic substances.

- b/ To research, develop and apply biotechnology for treating pollutants, restoring and developing natural ecosystems, and protecting the environment:

- To research and apply biotechnology in preventing and handling environmental pollution, giving priority to treating medical waste, industrial waste, hazardous waste and specific wastes from security and defense activities;

- To research and apply traditional environmental biotechnology in combination with advanced biotechnologies for building technological processes to reuse and recycle wastes from production and daily-life activities;

- To research and apply biotechnology in remedying environmental incidents;

- To develop and apply biotechnology in environmental rehabilitation and ecosystem restoration.

- c/ To research, develop and apply biotechnology for creating environmentally friendly technologies and products:

- To research and apply biotechnology in renovating technological processes to be environmentally friendly and ensure cleaner production. To prioritize the development and application of combinations of highly bioactive substances and microorganisms in order to

make environmentally friendly products or replace hazardous chemicals used in the production process in important industries;

- To research and apply biotechnology in producing renewable energy from scraps and wastes (agricultural and rural scraps; used animal fat and vegetable oil, etc.);

- To research and apply groups of substances created from agricultural wastes and byproducts to develop environmentally friendly technological processes (bio-solvents and bio-materials).

d/ To research, develop and apply biotechnology for storing, preserving and rationally using biodiversity resources:

- To research and effectively use bio-gene sources in the process of transforming and disintegrating environmental pollutants;

- To research and apply biotechnology in biodiversity conservation, prioritizing precious and rare living creatures.

3. To build capacity for developing and applying in biotechnology environmental protection:

a/ Human resource training:

- To provide advanced training and retraining in biotechnology in environmental protection for environmental researchers and managers via short-term training courses at home and abroad;

- To send people for postgraduate training to countries with developed biotechnology in environmental protection;

- To train technicians in biotechnology in environmental protection for realizing the Scheme's contents and carrying out environmental protection activities in localities and enterprises; to support enterprises in developing bio-environment industry;

- To formulate and implement a mechanism on linking postgraduate training with scientific research and technology development so that research and application schemes contribute to training officers with high qualifications in biotechnology in environmental protection.

b/ To build physical and technical foundations and modernize research equipment:

- To upgrade and modernize equipment for institutions researching and training in biotechnology in environmental protection; laboratories testing and assessing environmental quality and bio-products in environmental protection;

- To develop a website and national database on biotechnology in environmental protection for timely providing and sharing information for related units and individuals.

4. To develop and improve assessment methods to effectively control and manage technologies and biotechnology products in environmental protection:

- a/ To elaborate regulations and standards on technologies and biotech products applied in environmental protection;

- b/ To research and improve methods to assess the efficiency, quality and safety of

technologies and biotech products before applying them in environmental protection;

c/ To research and develop a system for assessing and recognizing technologies and biotech products applied in environmental protection.

B. TASKS PRIORITIZED FOR IMPLEMENTATION

To approve on principle 8 groups of tasks prioritized for the Scheme's implementation (in the Annex to this Decision, *not translated*). The total fund for the Scheme's implementation shall be determined based on the approved fund for each specific subject, project and task. The state budget fund shall be reserved for research and development (R&D) tasks, research and application, pilot production and technology transfer; in-depth investment in physical and technical foundations and modern laboratory equipment; and human resource training.

III. IMPLEMENTATION SOLUTIONS

1. To step up the formulation and improvement of mechanisms, policies and legal documents on the development and application of biotechnology in environmental protection:

a/ To elaborate and issue according to competence or submit to competent authorities for issuance legal documents, mechanisms and preferential policies on credit, tax, land use rights and technology transfer to be applicable to enterprises, organizations and individuals investing in the development of biotechnology for environmental protection;

b/ To review, supplement and improve legal documents, mechanisms and policies for managing, supporting and promoting the development and wide application of biotechnology in environmental protection.

2. To step up the application of scientific research findings to production and promote technology transfer activities:

a/ To prioritize the implementation of research and application schemes to create environmental protection technologies and products; to effectively implement pilot production (P) projects and projects of international cooperation on technology transfer;

b/ To effectively carry out activities to promote production, development of technology transfer services and use of bio-products in environmental protection.

3. To raise more domestic and foreign investment capital sources for effectively realizing the Scheme's contents:

To diversify domestic and foreign investment capital sources, state budget funds and international cooperation funds for research, development and effective application of biotechnology in environmental protection; to make in-depth investment in building physical and technical foundations and modernizing laboratory equipment, training human resources and realizing other contents and tasks of the Scheme.

4. To increase potential for biotechnology in environmental protection in terms of physical and technical foundations and human resources:

a/ To build material and technical foundations and modernize equipment for specialized laboratories to serve scientific research, technology development and human resource training;

b/ To link universities, institutions and research centers in providing advanced training and retraining for scientists, managers and technicians through domestic and overseas short-term training courses.

5. To increase international cooperation:

a/ To transfer, receive and apply scientific and biotechnology advances in environmental protection;

b/ To cooperate in implementing research schemes and projects to develop human resources and access advanced technologies;

c/ To effectively use foreign financial and technical assistance for developing and applying biotechnology in environmental protection.

6. To integrate relevant programs and schemes:

a/ To integrate and link this Scheme into/ with approved environmental protection strategies, programs, schemes and projects;

b/ To integrate biotechnology development and application programs and schemes in various sectors as approved by the Government.

7. To step up communication:

a/ To involve the mass media and scientific and technological organizations popularizing

biotechnological advances in environmental protection;

b/ To strongly improve the awareness of local administrations at all levels about the development and application of biotechnology in environmental protection; to raise their sense of responsibility for and direction of the development and application of biotechnology in environmental protection.

IV. ORGANIZATION OF IMPLEMENTATION

1. The Ministry of Natural Resources and Environment shall:

a/ Assume the prime responsibility for, and coordinate with ministries, sectors and localities in, effectively and promptly realizing the Scheme's contents and tasks, and annually report on implementation results to the Prime Minister;

b/ Assume the prime responsibility for, and coordinate with the Ministry of Science and Technology, the Ministry of Planning and Investment and the Ministry of Finance in, guiding the use of state budget funds for realizing the Scheme's contents;

c/ The Minister of Natural Resources and Environment shall form and head the Steering Committee. This Committee shall assist the Minister of Natural Resources and Environment in implementing the Scheme. The Minister of Natural Resources and Environment shall decide on the membership and operation regulation of the Steering

Committee and its assisting office (based at the Vietnam Environment Administration).

2. The Ministry of Planning and Investment and the Ministry of Finance shall consider and allocate funds under long-term and annual plans for ministries, sectors and localities to realize the contents and tasks assigned to them under this Decision.

3. The Ministry of Science and Technology shall assume the prime responsibility for, and coordinate with the Ministry of Natural Resources and Environment in, increasing equipment and physical foundations for training, scientific research, development and application of biotechnology in environmental protection.

4. The Ministry of Education and Training shall assume the prime responsibility for, and coordinate with the Ministry of Natural Resources and Environment in, training human resources in biotechnology in environmental protection for the Scheme.

5. Ministries, sectors and localities shall work out long-term and annual state budget plans for realizing the contents and tasks assigned to them under this Decision, and send these plans to the Ministry of Planning and Investment, the Ministry of Finance and the Ministry of Science and Technology for summarization; and annually report on implementation results to the Ministry of Natural Resources and Environment for summarization and reporting to the Prime Minister.

6. Related organizations and individuals wishing to take part in implementing the Scheme's projects and tasks shall annually register their participation with the Ministry of Natural Resources and Environment and the Scheme's Steering Committee for consideration and approval.

Article 2. This Decision takes effect on the date of its signing.

Article 3. Ministers, heads of ministerial-level agencies, heads of government-attached agencies, chairpersons of provincial-level People's Committees and related organizations and individuals shall implement this Decision.

For the Prime Minister
Deputy Prime Minister
HOANG TRUNG HAI