

## **THE PRIME MINISTER**

### **DECISION No. 112/2004/QĐ-TTg OF JUNE 23, 2004 APPROVING THE PROGRAM ON DEVELOPMENT OF AQUATIC SEEDS TILL 2010**

#### **THE PRIME MINISTER**

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

*Pursuant to the Government's Decree No. 43/2003/ND-CP of May 2, 2003 defining the functions, tasks, powers and organizational structure of the Fisheries Ministry;*

*At the proposal of the Fisheries Minister,*

#### **DECIDES:**

**Article 1.-** To approve the Program on development of aquatic seeds till 2010, with the following principal contents:

#### **1. OBJECTIVES:**

- To raise the research capacity, strive to step by step master seed production technologies in order to form a group of diversified aquatic species of economic and export value in service of aquaculture development in ecological freshwater, saltwater and brackishwater areas.

- To complete and step by step modernize the system of commercial production of aquatic seeds in order to proactively supply sufficient good seeds in time for various seasons and diversified farmed aquatic species, in service of aquaculture development and economic restructuring in an efficient and sustainable manner.

To strive to achieve the following targets by

2010:

- Aquatic seeds for brackishwater and saltwater farming: 35 billion of prawn seeds, over 500 million of other crustacean seeds, over 11 billion of mollusk seeds, around 400 million of marine fries, and over 6,000 tons of seaweed seeds.

- Aquatic seeds for freshwater culture: over 3.5 billion of blue-legged prawn seeds, over 700 million of catfish seeds, over 500 million of male, unisexual *napia* seeds, over 12 billion of other fries.

#### **II. CONTENTS OF THE PROGRAM:**

##### **1. To upgrade, improve the infrastructures and facilities of aquatic seed centers**

a/ To invest in building and improving the system of national aquatic seed centers;

- The northern national freshwater aquatic seed center (in Phu Tao - Hai Duong);

- The central Vietnam national freshwater aquatic seed center (in Dak Nong);

- The southern national freshwater aquatic seed center (in Cai Be - Tien Giang);

- The northern national marine seed center (in Xuan Dan - Cat Ba - Hai Phong).

- The central Vietnam marine seed center (in Van Ninh - Khanh Hoa).

- The southern national marine seed center (in Ba Ria - Vung Tau).

b/ To build 16 grade-I aquatic seed centers, including 5 marine seed production centers and 11 freshwater aquatic seed centers:

- Grade-I marine seed centers to be built in 5 coastal provinces of Da Nang (Hoa Hai), Ninh Thuan (Ninh Phuoc), Ca Mau (Hon Khoai, Tan An), Bac Lieu (Hop Thanh, Bac Lieu capital town), Kien Giang (Phu Quoc).

- Grade-I freshwater aquatic seed centers to be built in province clusters or regions, arranged in 11

provinces with large freshwater aquaculture areas and natural aquaculture zones typical of the regions, including:

+ For the northern mountainous region: Grade-I aquatic seed centers in 4 provinces, including Son La (in Mai Son district) in service of Lai Chau, Son La and Hoa Binh provinces; Bac Giang (in Lang Giang district) in service of Lang Son and Bac Giang provinces; Ha Giang (in Vi Xuyen district) in service of Ha Giang, Tuyen Quang and Cao Bang provinces; and Yen Bai (in Van Chan district) in service of Yen Bai, Thai Nguyen, Bac Kan and Lao Cai provinces.

+ For central Vietnam provinces: Grade-I aquatic seed production centers to be based in 3 provinces, including Nghe An (Yen Ly, Dien Chau) in service of Thanh Hoa, Nghe An and Ha Tinh provinces; Thua Thien Hue (Cu Chanh) in service of Quang Binh, Quang Tri and Thua Thien Hue provinces; Binh Dinh (Phu My) in service of Da Nang, Quang Nam, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan, Binh Thuan and part of Central Highlands provinces.

+ For southern provinces: Grade-I aquatic seed centers to be located in 4 provinces, including Ho Chi Minh city (An Hoi - Cu Chi) in service of Dong Nai, Ba Ria - Vung Tau, Binh Duong, Binh Phuoc and Tay Ninh provinces; Can Tho (O Mon) in service of Hau Giang, Soc Trang, Bac Lieu and Ca Mau provinces, part of Kien Giang, Tra Vinh and Vinh Long provinces, part of Ben Tre province; An Giang (Binh Thanh - Chau Thanh) in service of An Giang province, part of Kien Giang province; Dong Thap (Tan Nhuan Dong - Chau Thanh) in service of Dong Thap province, part of Long An province, part of Vinh Long province, part of Tien Giang province.

c/ To upgrade and build provincial aquatic seed centers: To upgrade the existing seed farms to ensure that by 2010 each province shall have an

aquatic seed center for receiving and rearing new breeds, receive prototype breeds, receiving and applying new technologies as well as transferring technologies to the establishments engaged in commercially producing seeds and participate in commercially producing seeds.

## **2. To raise the capacity of research and production manpower**

- To reinforce the contingents of scientists, technicians and researchers for aquaculture research institutes and centers as well as national aquatic seed centers in order to have sufficient human resources to perform the function of developing aquatic seeds, including: prioritizing the in-country and overseas training of scientists for research institutes, research centers, national aquatic seed centers, universities and colleges providing aquaculture training.

- To step up various forms of training in seed production management and techniques, raise the seed production and feed production levels at the hatchery-reared postlarvae stage for technicians and workers of production establishments; provide technical training and transfer technologies to fishermen and farmers engaged in aquatic seed production. To encourage all economic sectors to send people for training in order to have good specialists and technicians in aquatic seed production.

## **3. To form and step by step modernize the system of establishments engaged in commercial production of seeds**

To develop the system of establishments engaged in commercial production of seeds according to branch and local plannings, to encourage the participation of all economic sectors in the regions with seed production advantages and the key aquaculture regions where conditions permit the seed production in order to supply

sufficient seeds for farming for export and agricultural restructuring.

a/ Establishments engaged in producing aquatic seeds for brackishwater and saltwater farming:

In northern coastal areas: To develop a number of farms to produce tiger prawn and nipper-prawn seeds being brackishwater species naturally distributed in the region, in order to supply part of these seeds on spot, and, at the same time, to receive tiger prawn larvae from central Vietnam or larvae of other species for hatchery into advanced seeds. Particularly for coastal areas in Quang Ninh and Hai Phong, to encourage the development of farms to artificially breed marine fishes and establishments to hatch fertilized fish eggs into fingerlings for farming areas.

In central coastal areas from Da Nang to Binh Thuan: To develop the commercial production of aquatic seeds for supply to farming areas nationwide. The major species to be produced in the central region include tiger prawns and many brackishwater and saltwater aquatic species like mension, chinaman, sparoid, crab (Da Nang, Quang Nam), lobster (Binh Dinh, Phu Yen, Khanh Hoa), grouper and winkle (Khanh Hoa, Ninh Thuan, Binh Thuan).

In southern coastal areas: To develop the production of tiger prawn and blue-legged prawn seeds in order to proactively supply part of these seeds on spot. In some provinces with rivermouth alluvial banks favorable for mollusk development, such as Tien Giang, Ben Tre, it is necessary to develop establishments engaged in the artificial production of mollusk seeds in order to sufficiently supply them for the farming demands in the area, reducing the exploitation of natural seeds.

b/ Establishments engaged in producing aquatic seeds for freshwater farming:

In northern provinces: The existing production establishments should raise the quality of seeds

and add new species already tested to the structure of cultured species; prioritize the transfer of the technology to transform the sex of tilapia of GIFT breed to large-scale seed production establishments of all economic sectors in order to produce them right in the localities for supply to hatcheries.

In central provinces: To develop hatcheries or build fry production farms with appropriate sizes suitable to the serviced areas in order to sustain their operation.

In southern provinces: To develop seed production in all localities. For the immediate future, to prioritize investment in researching into the technologies for the production of seeds of *basa* (indigenous catfish), male blue-legged prawns and unisexual male GIFT tilapia, rare and precious indigenous species which are exportable, and assorted freshwater fish species and quickly transfer them for mass production in order to sufficiently supply them for farming for export and domestic consumption.

In mountainous and Central Highlands areas: Through fishery promotion activities to develop small-scale seed production spots and fingerling hatcheries in deep-lying and remote areas in order to supply seeds on spot and restoring the reservoir fisheries.

c/ To build a number of concentrated aquatic seed production zones along the industrialization direction:

Concentrated seed production zones shall be built in areas with favorable conditions and in key farming areas. In each zone, 200 to 500 seed farms may be set up, each having a capacity of producing 10 million of prawn seeds per year in order to create great quantities of aquatic seeds, and observing the Regulations on quarantine, goods labeling and quality recognition before ex-work delivery. Outside the prawn seed production season, these farms may produce mollusk seeds, hatch marine fishes and other crustacean species.

For the immediate future, from 2004 to 2006, to support investment in building a number of concentrated brackishwater and saltwater aquatic seed production zones:

- Cam Lap - Cam Rang - Khanh Hoa concentrated seed production zone.

- Ninh Hai - Ninh Thuan concentrated seed production zone.

- Ngoc Hien - Ca Mau concentrated seed production zone.

- Phu Quoc - Kien Giang concentrated seed production zone.

- Hiep Thanh - Bac Lieu concentrated seed production zone.

- A concentrated seed production zone in Quang Nam.

#### **4. To intensify the aquatic seed management work**

- To continue improving, and enhancing the capacity of, the system of management and control of seed quality, diseases and epidemics at all stages of production, circulation, seed quality inspection, recognition of original species criteria, parental stock criteria, compliance with the goods labeling regulations in order to ensure good-quality seeds to be reared with high productivity and reduce diseases and epidemics.

- To formulate and promulgate branch standards applicable to seed production farms, seed production conditions and seed quality.

- To supply pure-bred parental aquatic stocks for seed production farms.

- To implement the plannings on concentrated, large-scale seed production and the plannings on development of local seed farms and apply quality recognition regulations.

- To organize environmental and epidemic warnings to producers.

#### **5. To organize the implementation of aquatic seed development schemes and projects**

- The scheme "To develop technologies for the rearing of fully-grown parental lobsters and the production of high-quality prawn seeds."

Its objective: To perfect the technology for the creation of parental tiger prawns of good quality.

- The scheme "To develop diversified brackishwater prawn breeds."

Its objective: To create technologies for the production of brackish prawn seeds in order to diversify the group of farmed breeds, making the fullest use of land funds. The development of the seeds of the following prawns shall be prioritized: *M.ensis*, *P.merguensis*, *P.orientalis*, *Penaeus vannamei*, *P. semisulcatus*, *P.japonicus* and *Penaeus indicus*.

- The scheme "To develop technologies for the production of some marine fishes of economic value (grouper, *ca gio*, *ca su hong*, pickerel, bahmin, perch, etc)."

Its objectives: To perfect the technological process of producing seeds of some marine fishes of high economic value; to develop reserve parental fish stocks to ensure the supply of fertilized eggs and fries for subsequent years.

- The scheme "To develop technologies for the production of seeds of some mollusk species (*meretrix*, ark shell, scallop, oyster, winkle, abalone, etc)."

Its objective: To create seed production technologies in order to proactively supply mollusk seeds for rearing in rivermouth areas, alluvial banks and coastal banks.

- The scheme "To develop technologies for the production of seeds of some specialty crustacean breeds of crab and lobster families."

Its objective: To perfect the technology for the production of seeds of some specialty crustacean

species of crab and lobster families.

- The scheme "To develop technologies for the production of some kinds of seaweeds of economic value (*gracilaria*, *rong sun* etc).

Its objectives: To select purebred breeds of some kinds of *gracilaria* and *rong sun* of high agar, carrageenan contents and high congealability. To develop technologies for the industrial production of seaweed seeds in order to proactively supply them for production.

- The scheme "To develop technologies for the production of *basa* (indigenous catfish) seeds."

Its objective: To perfect technologies for the production of *basa* seeds so as to sufficiently produce them to meet the demands of farming for export.

- The scheme "To develop technologies for the production of blue-legged prawn seeds and all male blue-legged prawns."

Its objective: To create seed production technologies in order to socialize the production of blue-legged prawn seeds and all male blue-legged prawns.

- The scheme "To develop technologies for production of tilapia seeds."

Its objective: To ensure sufficient parental stocks and transfer technologies to all economic sectors to produce quick-growing tilapia seeds which can be farmed in freshwater, brackish water and saltwater areas.

- The scheme: "To develop technologies for the production of seeds and conservation of some indigenous fishes of economic value or in danger of extinction (*anh vu* (freshwater parrotfish, *semilabeo notabilis*), *dam xanh*, *lang* (dwarf fish), *ho* (*catlocarpio siamensis*) *tra dau* (*pangasiannodon gigas*), *bong lau*, *chia voi* (common pipefish), *bong keo*, *chinh* (conger), *diec gu*, *tre vang* (brown walking catfish), *ro dong* (*anabas*)."

Its objective: To create technologies for the production of the seeds of indigenous fish species of economic value so as to supply seeds for farming and additionally stock their natural habitats.

- The scheme "To raise the quality of seeds of some major freshwater fish species."

Its objectives: To raise the quality of seeds of traditional freshwater fish species already selected (Indian carp, grass carp, fathead, bighead, major carp, carp, mosambica tilapia) in order to raise the productivity and economic efficiency of their farming.

- The scheme "To develop aquatic seeds for ornamental purposes."

Its objective: To create seed production technologies and sufficiently produce seeds for domestic market and export demands.

- The scheme "To train human resources specialized in aquatic seeds."

Its objective: To form a contingent of scientists and technicians capable of managing and researching into seed-related scientific matters as well as seed producers who have scientific knowledge, high professional qualifications and skills.

### III. A NUMBER OF MAJOR SUPPORT SOLUTIONS

#### 1. Regarding policies

- To continue implementing the Prime Minister's Decision No. 224/1999/QĐ-TTg of December 8, 1999 approving the Program on aquaculture development in the 1999-2010 period and Decision No. 103/2000/QĐ-TTg of August 25, 2000 on a number of policies to encourage the development of aquatic seeds.

- In the course of implementing the Program, to continue studying, proposing and submitting to the Prime Minister for promulgation timely

supplementary policies suitable to the reality in order to encourage various social resources to participate in the development of seeds, apply advanced technologies to, and take initiative in, the commercial production of seeds to meet the market demands.

- Localities shall base themselves on their practical conditions to continue adopting mechanisms and policies to support and encourage organizations and individuals to participate in the development and production of aquatic seeds for supply on spot for aquaculture development demands.

## **2. Regarding investment and credit**

### **a/ Budgetary capital:**

- The central budgetary capital shall be used to support investments in:

+ Building infrastructures of national aquatic seed centers, supporting the building of grade-I aquatic seed centers, partly supporting the building of aquatic seed centers in mountainous localities with economic difficulties and low budgetary revenues (plain provinces may use the annual capital source of the animal and plant seed program), supporting the building of essential infrastructures of concentrated aquatic seed production zones (roads, water supply systems for seed production and waste water treatment, seed quality-testing equipment).

+ Scientific and technological researches in order to implement the aquatic seed development schemes and projects already identified in the Program and basic scientific researches into seed development (heritance, selection, migration, domestication of aquatic species) and other seed-related scientific activities.

+ Modernizing a number of laboratories of aquaculture research institutes and centers and national aquatic seed centers.

+ Aquatic seed-related fishery promotion activities of the national fisheries promotion center.

+ Training human resources specialized in aquatic seeds for research institutes and centers,

national aquatic seed centers and developing scientific and technical information in service of seed research and production.

- Local budget capital: Together with the supports from the State budget capital, local budget capital shall be used for: Building and improving grade-I aquatic seed center (according to planning) or building provincial aquatic seed centers; supporting seed-related scientific and technological activities research activities; providing financial supports for the production of original species, parental stocks; training of local human resources in the aquatic seed domain.

### **b/ Other capital sources:**

- Commercial credits to fully meet the borrowing demands of all economic sectors for implementing aquatic seed development and production and trading projects already approved according to the current mechanism.

- Mobilized capital of various economic sectors: To encourage all economic sectors to invest, enter into joint ventures and partnerships in order to develop the commercial production of aquatic seeds.

- Foreign-invested capital: Through foreign direct investment (FDI) projects in the seed production domain, official development assistance (ODA) projects and AIT-, DANIDA-, NORAD-financed projects, technical assistance and consultancy, consultancy on, training in, and import of new technologies, technology transfer.

## **3. Regarding international cooperation**

To encourage the setting up of joint ventures with foreign investors in research into the conservation of prototype breeds and development of rare and precious breeds; import and apply new aquatic breeds and aquatic breed-related scientific and technological advances in the country.

To promote international relations and cooperation in scientific researches, inheritance, breed

selection, technology transfer, sex transformation, and make full use of foreign countries' and international organizations' financial supports in training to raise the capabilities of personnel.

#### 4. Regarding science and technology

In the coming years, to improve the processes of producing good and disease-free seeds of some species which are of high demand and their production technologies have been mastered; expeditiously improve the technological processes of artificial production of farmed varieties with high development prospects; concentrate on studying the common diseases in aquatic species and methods of their prevention and elimination.

To attach importance to, and prioritize, the training of top professionals with profound specialized knowledge, competent in the aquaculture domain in general and aquatic seeds in particular.

To concentrate on formulating branch standards for the technological processes of seed production, seed farms and concentrated seed production zones, regulatory documents on management of seed production activities and management of seed quality, for early promulgation.

#### 5. Regarding fishery promotion

To quickly transfer seed production technologies which have been successfully studied in the country, such as techniques of marine fish hatchery, producing male, unisexual tilapia seeds, mollusk and crustacean seeds; building demonstration models of fish hatchery in mountainous areas, etc, in order to deploy the mass production of fries.

To continue studying and searching for seed production technologies and new breeds of high economic value for importation in order to raise economic efficiency and contributing to diversifying the group of farmed varieties.

To promote training in seed production techniques, environmental assurance and

prevention of epidemics; to publish publications to popularize, disseminate and share experiences widely among farmers and fishermen.

### IV. ORGANIZATION OF IMPLEMENTATION

1. The Fisheries Ministry is the agency assuming the main responsibility for, and coordinating with the concerned agencies and localities in, organizing the implementation of the Program; directing the research institutions to deploy the building of the national seed system and implement the aquatic seed production schemes and projects; directing and guiding localities in formulating the plannings and developing the seed system according to such plannings; coordinating with the concerned ministries and branches in planning, formulating and managing zones of marine conservation, prototype breed conservation and development of parental aquatic stocks; conducting preliminary and sum-up reviews and reporting the results to the Prime Minister.

2. The Planning and Investment Ministry, the Finance Ministry and the Science and Technology Ministry shall balance and arrange the annual State budgets and other capital sources for the effective implementation of the Program.

3. Vietnam State Bank shall direct commercial banks to guide and create favorable conditions for enterprises of all economic sectors to have access to loans for production development.

4. The provincial/municipal People's Committees shall have to formulate and implement the detailed plannings, direct the implementation of the Program on development of aquatic seeds in their localities, prioritize the investment in building and upgrading seed production establishments and encourage the development of aquatic seed production in the localities.

5. Professional associations and mass organizations: Vietnam Fishery Association, the

Association of Export and Processing of Aquatic Products, Vietnam Peasants' Association, other professional associations and socio-political organizations shall, according to their respective functions, popularize, guide and mobilize their members, farmers and fishermen to implement the Program on development of aquatic seeds according to the right orientations and objectives.

**Article 2.-** This Decision takes effect 15 days after its publication in the Official Gazette.

The Fisheries Ministry shall have to guide the implementation of this Decision.

**Article 3.-** The ministers, the heads of the ministerial-level agencies, the heads of the Government-attached agencies, the presidents of the People's Committees of the provinces and centrally-run cities shall have to implement this Decision.

**Prime Minister**  
**PHAN VAN KHAI**