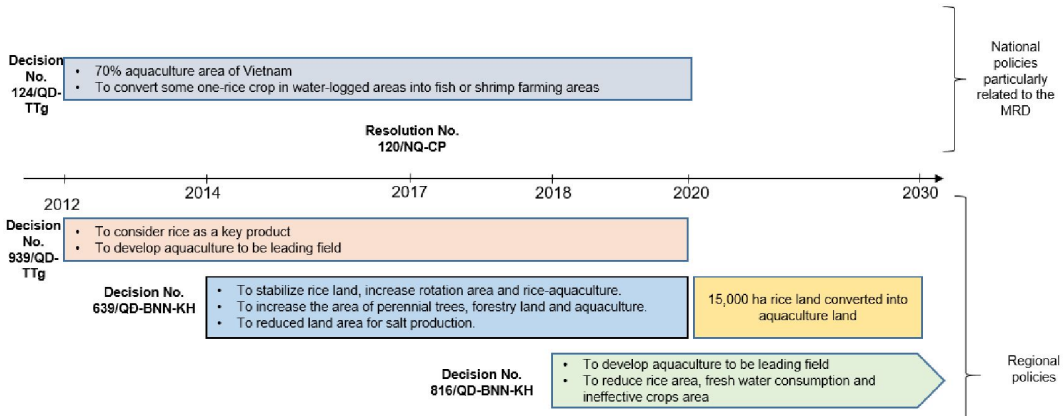


# Supplementary Material S4: Policy analysis of spatial planning in the Mekong Delta

## Abstract

Summary of the policies for agricultural and socio-economic development in the Mekong River delta (MRD). We analysed the four main decisions that structure planning decisions in the delta: two of them aim at a specialisation of the delta (No. 124 and No. 939), while the other two aim focus on a specialisation strategy (No. 639 and No. 816). These two groups of policies were the basis for the simulated scenarios.



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## Overview of relevant policies

To ensure national food security and satisfy diverse domestic and export demands, the Government approved the master plan for agricultural production development through 2020, with a vision toward 2030 through the decision No. 124/QĐ-TTg of February 2, 2012. The master plan identifies to develop agriculture comprehensively toward modernity, sustainability and large scale commodity production; to apply science and technology to increase productivity, quality, effectiveness and competitiveness; to raise the effectiveness of the use of land, water, labour and capital; and to raise incomes and living conditions of farmers, fishermen, salt producers and foresters. Orientations for the MRD are to develop agriculture area in the region account for 70% of that in Vietnam and to convert some one-rice crop in water-logged areas into fish or shrimp areas. Most of the orientations for development in this master plan focus on outcome and to ensure outcome, the main solutions are to expand the farming area and to do intensive farming.

For regional development in the Mekong River delta, the decision No. 939/QĐ-TTg of July 19, 2012, approving the master plan on socio-economic development of the Mekong River delta through 2020 aims to build and develop the Mekong River delta into a national key region for agricultural commodity production and aquaculture with high economic growth and sustainable development to ensure national food security and maintain an annual rice export volume of about 6-7 million tons. The development orientations are in the direction of producing high quality and competitive products; the two strategic product to export are rice and aquatic products; to form specialised areas for large-scale production using high technology, associated with the development of new rural areas; to continue reconstruct agriculture in the direction of market. The regional master plan is in line with the national master plan in ensuring national food security and export demand. Rice is the key product for development and there are supporting policies for rice farming area. Aquaculture is considered as a leading field of the region and develop towards intensive, concentrated direction. Overall, the orientation for agriculture development is to avoid the nature when there are irrigation systems and production trends focusing on flood and salinity prevention.

Specifying from the regional master plan, in April 02, 2014, The Ministry of agriculture and Rural Development approved the plan for agriculture and rural area in the Mekong River Delta till 2020, vision till 2030 through decision No. 639/QĐ-BNN-KH to develop agricultural production in the direction of value increase and sustainable development; to create linkages for production, forming specialised production areas, large field model; to apply science and technology; to associate production with processing and marketing. This plan aims at developing agriculture and rural area in the direction of comprehensive, sustainable, highly adaptive to climate change manner with the structure of production value of agriculture, forestry and aquaculture and fishery by 2020 is 64.2%, 0.9% and 34.9% respectively and by 2030 is 51.9%, 0.9% and 40% respectively. To 2020, agricultural land of the region will be 3.25 million ha. Land use orientations to 2020 are to stabilise rice farming land (increase rotation area of rice-vegetable and rice-aquaculture), increase the area of perennial trees, forestry land and aquaculture and reduced land area for salt production. Land use and irrigation development plans for the sub-regions in the MRD are shown in Fig. 1. According to vision to 2030, it is expected that agricultural land will be inundated due to sea level rise of 30,000 ha and the area of rice land will be reduced by about 15,000 ha, expected to be converted into aquaculture. Overall, the plan for agricultural development for the MRD is in line with that for national level and the

regional master plan– developing agriculture towards large-scale commodity, modernity and sustainability. Rice production is the prioritised product for development to ensure national food security and export demand. Aquaculture, one of the key products of the MRD, is step by step invested through infrastructure and irrigation system. Solutions to ensure the land use orientation is to develop policy and create favourable conditions for farmer to restructure agriculture but many solutions focusing on encourage and support for development are still vague to answers the question about how perform on the ground.

The term “sustainable” is gradually appropriated in the context of climate change and sea level rise. The government imposed resolution No. 120/NQ-CP in November 17, 2017 for sustainable development in the MRD and in March 07, 2018, decision No. 816/QĐ-BNN-KH was approved to specify tasks and solutions of the resolution No.120 to units under MARD in the MRD and to be a base for the units to develop programs of action. One of the main tasks for the units is to review and adjust strategies and plans for agricultural development in the MRD to be suitable with ecological conditions of subareas, reduce rice land area, fresh water consumption and ineffective crops and encourage agriculture production combining with ecological tourism. This task is in line with the orientation of the regional agricultural development plan – stabilising rice farming land till 2020 and expected to convert to aquaculture till 2030, and further appropriate ecological conditions of each sub-region. Following to orientations from the regional agricultural development plan, decision No. 816 further develop policies to motivate technology, biotechnology and agricultural commodity for a modern, competitive and sustainable agriculture. Aquaculture in this decision is orientated to be a leading field of the MRD on the basis of suitability with ecological condition of the region and sub-regions as well as scenarios of climate change. Another task is to change and create job for agricultural labour towards specialised, professional directions and to shift agricultural labour into industrial and service labour.

We will further analyze these following policy groups involving to agricultural development in the Mekong River Delta:

1. Agricultural land policies
2. Social security policies for farmers
3. Agricultural disaster insurance
4. Food security and safety
5. Production and marketing policies
6. Human resources, research and innovation
7. Infrastructure development
8. Environment and natural resources

## “Specialisation” as main development paradigm

### 2.1 Decision No. 124

Decision No. 124/QĐ-TTg of February 2, 2012, approving the master plan for agricultural production development through 2020, with a vision toward 2030

#### 2.1.1 Viewpoints

- To follow the direction of improving productivity, quality, competitiveness, effectiveness and sustainability of agriculture
- To be based on renewal of thinking and market access in combination with rapid application of scientific and technological achievements, efficient use of land, water and trained human resources, adaptation to climate change, and protection of the eco-environment
- Closely link production with preservation and processing industries and consumption markets; accumulate land to form consolidated commodity production zones
- To be associated with the restructuring of agriculture and rural labour, population redistribution and trained human resources
- To introduce a system of policies to mobilise to the utmost social resources, primarily land, labour, forests and sea, promoting the strength of international integration and the support of the State

#### 2.1.2 Development objectives

##### General objective

To build comprehensive agriculture in the direction of modern, sustainable manner and large-scale commodity on the basis of promoting strengths; to apply science and technology to increase yield, quality, effectiveness and competitiveness, ensuring national food security in short and long term, meeting the demand of nation and exporting; to enhance the effectiveness of land use, labour and capital; to increase income and living of agricultural, aquaculture farmers, fishermen, salt producers and foresters

##### Specific objectives

For the 2011-2020 period

- The agriculture-forestry-fisheries structure by 2020: agriculture: 64.7%, forestry: 2%, and fisheries: 33.3%.
- The average annual agriculture-forestry-fishery GDP growth rate: between 3.5 and 4%.
- The annual agriculture-forestry-fishery production value growth rate: 4.3-4.7%.
- Forest coverage: 44- 45% by 2020.
- The agriculture, forestry and fisheries export turnover: USD 40 billion, including 22 billion for agriculture. 7 billion for forestry and 11 billion for fisheries.
- The output value per ha of agricultural land: VND 70 million on average.

Vision toward 2030

- The agriculture-forestry-fisheries structure by 2030: agriculture 55%, forestry: 1.5%, and fisheries: 43.5%.
- The average annual agriculture-forestry-fisheries GDP growth rate: 3-3.2%.
- The agriculture-forestry-fisheries production value growth rate: 4-4.3%/ year.

- The agriculture-forestry-fisheries export turnover: USD 60 billion, including 30 billion for agriculture, 10 billion for forestry and 20 billion for fisheries.
- The Output value per hectare of agricultural land: VND 100-120 million on average.

### 2.1.3 Development orientations

For the Mekong river delta

- Land areas under aquaculture in the Mekong River delta represents 70% of Vietnam. To convert some one-rice crop in water-logged areas into fish or shrimp farming areas. For brackish water aquaculture, to form consolidated industrial rearing zones covering large areas under GAP standards suitable to each market, creating large commodity outputs for export and domestic consumption in the Red River delta, central coast and the Mekong River delta associated with their origins, establishing reputable and high-quality fishery brands.
- 330.000 ha of vegetable land, 500 ha of pepper
- To practice intensive farming with irrigation, use high-yield and high sugar strains with 52.000 ha of land under sugarcane
- One of the main production regions for coconut, cocoa, fruit trees (350.000 ha)
- For frozen processing: to build new catfish processing factories with an average capacity of 7,500 tons/year to handle the amount catfish increased to 1.5 million tons by 2015 and increase the capacity of the existing factories in 2015 to 2 million tons by 2020.

### 2.1.4 Main solutions

- To raise awareness, focus on directing the formulation and implementation of the master plan on the sector development in the market economy
- To develop the markets and promote trade for the implementation of the objectives of the master plan
- To conduct scientific and technological research and transfer and to train human resources
- To develop infrastructure to satisfy the development requirements of agriculture, forestry, salt production and fisheries under the master plan
- To further renew and build organisational forms of production and services in rural areas
- To properly organise the management and use of rice land in accordance with the land law to ensure national food security.
- Agricultural mechanisation

### 2.1.5 Organisation of implementation

1. The Ministry of Agriculture and Rural Development shall
  - Guide localities in reviewing and formulating master plans for development of agriculture, forestry, fisheries and salt production.
  - To expeditiously finalise reports on strategic environmental impact assessment for submission and approval according to regulations.
  - To enhance the capability of the sector's information systems, provide in time necessary information on the production, prices and markets for production establishments and producers to invest in production according to the master plan.
  - To appraise and approve regional plans for development of agriculture, forestry, salt production and fisheries.
  - To organise and direct the implementation of the master plan on development of agriculture, forestry, salt production and fisheries nationwide.

2. The Ministry of Planning and Investment shall, based on the master plan and investment projects approved by competent authorities, balance and annually allocate capital for investment in the development of agriculture and rural areas according to the master plan.
3. The Ministry of Finance shall ensure financial policies for the implementation of the master plan on development of agriculture, forestry, salt production and fisheries
4. Other Ministries and sectors shall, depending on their respective functions and tasks, participate and create conditions for localities, organisations, households and individuals in the implementation of the master plan.
5. The Provincial-level People's Committees shall:
  - Renew and elaborate local plans on agriculture, forestry, salt production and fisheries, and organise the implementation of the approved plans.
  - Guide districts, towns, provincial cities, communes and townships in drawing up plans for agricultural, forestry and fishery production.
  - To formulate programs and projects to develop key commodities of their localities and organise the implementation thereof.

## 2.2 Decision No. 939

Decision No. 939/QD-TTg of July 19, 2012, approving the master plan on socio-economic development of the Mekong River delta through 2020

### 2.2.1 Viewpoints

1. To be in line with the national and sectoral master plans
2. To bring into the fullest play the potential and advantages of localities in the region, especially advantages in agricultural production, aquaculture and marine economy; to step up economic restructuring and growth model renewal along the line of in-depth development; to sustainably develop the delta and coastal areas.
3. To develop a synchronous and eco-friendly system of urban centres and residential areas and a system of technical and social infrastructure facilities in close relation with rice fields, orchards, rivers, sea areas and islands
4. To step by step improve the quality of people's life; to step up the hunger eradication and poverty alleviation and reduce the social development gap between areas and between ethnic groups in the region.
5. To focus on training and developing human resources, especially high-quality ones
6. To pursue sustainable development, combining socio-economic development with economical use of natural resources and protection of the eco-environment; to adopt solutions to proactively prevent and respond to climate change and sea level rise; to closely combine socio-economic development with assurance of national defence and security and maintenance of political stability and social order and safety.

### 2.2.2 Development objectives

#### General objective

To build and develop the Mekong River delta into a national key region for agricultural commodity production and aquaculture with high economic growth and sustainable development; to strongly develop marine economy and accelerate cultural and social development to reach

the national average level; to build the region into a hub for proactive integration, trade exchange and economic cooperation with regional countries; and to firmly maintain political security, national defence and social order and safety.

### **Specific objectives**

By 2015, the agriculture- forestry-fisheries proportion in the region's GDP will be 36.7%. By 2020, these figures will be 30.5%. To assure national food security and maintain an annual rice export volume of about 6-7 million tons.

### **2.2.3 Development orientations**

#### **Agriculture, forestry and fisheries**

To develop the VMD as a key area for agricultural development in the direction of producing high quality and competitive products.; the two strategic product to export are rice and aquatic product; to form specialised areas for large-scale production using high technology, associated with the development of new rural areas; to continue reconstruct agriculture in the direction of market.

Priority fields in agriculture:

- Program about high quality rice production, varieties of plants, animals and aquaculture;
- Program about fishery port, high technology agriculture area, high quality rice for exporting area, specialised areas of fruit trees;
- Program about animal husbandry and protecting, developing national park.

#### **Industry**

To make in-depth investment in existing establishments that produce mechanical engineering products for agriculture

#### **Irrigation**

To complete multi-purpose irrigation and drainage system. Continuing to complete the works of flood drainage, salinity control, canals for irrigation; building water supply facilities for aquaculture in coastal areas and rice - aquaculture models in freshwater ecosystems. To study the construction of large-scale irrigation works in estuaries, ensuring the freshwater source for production, salinity control and environmental protection.

### **2.2.4 Main solutions**

#### **For the sectors prioritised for development**

Synchronously developing the infrastructure system, especially the transport network to link the regional localities with neighbouring localities; the irrigation system to serve rice production and aquaculture and large-scale fruit tree zones; and works for preventing and mitigating the impacts of the global climate change. To step up the application of high technologies to agricultural production to increase the yield and quality of products and production value per hectare of cultivated land.

### **Investment capital solutions**

Effectively mobilising all resources, especially internal strengths, for investment in socio-economic development. Prioritising the investment of state budget capital in works and projects that are strategically significant for the region, see no possibility of capital recovery, or treat environmental pollution, essential social infrastructure facilities and agricultural and rural development projects.

### **Solutions regarding mechanisms and policies**

Adopting policies to support rice production zones in order to assure the national food security; supporting the development of clean and hi-tech agricultural products, especially export products, and building brands for agricultural commodities. Adopting policies to further develop the industry of preliminary processing and processing of agricultural, forest and fishery products in deep-lying, remote and difficulty-hit areas.

#### **2.2.4.1 Cooperation and market development solutions**

Expanding cooperation on the development of agriculture, training, health, tourism, scientific research, technology transfer and labour supply between the Mekong River delta and south eastern Vietnam.

#### **2.2.5 Organisation of implementation**

1. The Ministry of Planning and Investment shall assume the prime responsibility for, and coordinate with related ministries and sectors and regional localities in:
  - Announcing and publicising the master plan, organising investment promotion, propaganda and advertisement
  - Monitoring, urging, supervising and inspecting the implementation of the regional master plan and master plans of ministries, sectors and regional localities; supervising the implementation of regional key programs and investment projects.
  - Studying and proposing a mechanism for coordination and policies on partnership and coordination among local localities and between the region and other regions. Calling for investment in regional key projects.
2. Related ministries and sectors shall elaborate, adjust and submit for approval their master plans and plans on major products of the region suitable to the development objectives, tasks and orientations approved in this Decision.
3. The provincial-level People's Committees in the Mekong River delta shall:
  - Take the initiative in reviewing, adjusting, supplementing and submitting to competent authorities for approval their adjusted master plans on socio-economic development through 2020 in line with the objectives and tasks approved in this Decision
  - To coordinate with ministries and sectors in organising investment promotion, publicity and advertisement.
  - To supervise and inspect the implementation of development investment projects in their localities according to their assigned functions, and report to the Prime Minister.



## **“Diversification” as main development paradigm**

### **3.1 Decision No. 639**

Decision No. 639/QĐ-BNN-KH of April 2, 2014, approving the plan for agriculture and rural area in the Mekong River Delta (MRD) till 2020, vision till 2030 in the context of climate change

#### **3.1.1 Viewpoints**

- To be in line with national regional plans
- To plan on the basis of thinking innovation, accessing market, exploiting and promoting the advantages of the region and each locality to develop agricultural production in the direction of value increase and sustainable development; to create linkages for production, forming specialised production areas, large field model; to apply science and technology; to associate production with processing and marketing.
- To meet the objective of developing new rural area in the direction of civilisation, having gradually modern socio-economic infrastructure, improving people's life.
- To significantly reform policy mechanism, especially in investment attraction mechanism; to create conditions for all economic sectors to invest

#### **3.1.2 Development objectives**

##### **General objective**

To develop in the direction of comprehensive, sustainable, highly adaptive to climate change manner; to produce high productivity, quality and competitive fields; to have rational economic and production organisation structure; to gradually modernise socio-economic infrastructure; to improve income and living standards; to use natural resources effectively; to protect and improve the environment.

##### **Specific objectives**

Until 2020

- GDP growth rate: 3.8-4.2%/year
- Production value growth rate: 4.5-5%/year, of which agriculture is 3-4%, forestry is 3% and aquaculture and fishery is 7-8%
- Structure of production value of agriculture, forestry and aquaculture and fishery is 64.2%, 0.9% and 34.9% respectively
- Rice output reach 24.5 million tons, aquatic output reach 3.5 million tons
- To achieve 130 million dong per 1 ha of agricultural land, 250 million dong per 1 ha of aquaculture land
- 50% of communes meet criteria of new rural area program

Up to 2030

- GDP growth rate: 3-3.5%/year.
- Production value growth rate: 4-4.5%/year, of which agriculture is 3%, forestry is 2.5% and aquaculture and fishery is 6-7%
- Structure of production value of agriculture, forestry and aquaculture and fishery is 51.9%, 0.9% and 40% respectively
- Rice output reach 23-24 million tons, aquatic output reach 4.2-4.3 million tons.

- To achieve 180-200 million dong per 1 ha of agricultural land, 400 million dong per 1 ha of aquaculture land

### 3.1.3 Development orientations

#### Land use

##### Overall land use

- To ensure that the area of agricultural land of the region by 2020 is 3.25 million ha. To stabilise rice land, increase rotation area and rice-aquaculture. To increase the area of perennial trees, forestry land and aquaculture. To reduced land area for salt production
- Vision to 2030: It is expected that agricultural land will be inundated due to sea level rise of 30.000 ha. The area of rice land will be reduced by about 15.000 ha, expected to be converted into aquaculture

##### Land use in sub-regions

- The land of Reeds: The strength is the production of rice, pineapple, mango, catfish. To 2020, to stabilise the area of fruit trees in the concentrated areas; to increase the area of catfish farming and Melaleuca forests in deep flooded areas, floods control until August; to increase the area of triple rice crops, rice-vegetable and pineapple, to reduce the area of sugarcane in medium and shallow flooded areas, flood control for the whole year
- The Long Xuyen Quadrangle: Strengths are rice production, catfish and brackish shrimp farming. To 2020, to stabilise the area of double and triple rice; to increase the area of rice-aquaculture in both fresh and brackish water; to increase the area of catfish farming along the Mekong river and brackish water shrimp; to plant mangroves to protect the coastal areas of the West Coast
- Sub-region between the Mekong and Bassac Rivers: The strength is the production of rice, all kinds of fruit trees (except for pineapple), vegetables and freshwater aquaculture. To 2020, to stabilise the area of fruit trees, to significantly increase the area of rice - vegetable and catfish farming along the Mekong and Bassac rivers
- Sub-region in the west of the Mekong river: Strengths are the production of rice, fruit trees, sugarcane and fresh water aquaculture. To 2020, to increase the area of triple rice, rice-vegetable, rice-fresh water aquaculture and catfish farming along the Mekong and bassac rivers
- The Ca Mau peninsula: strengths are aquaculture, forestry and salt production in saline affected areas and rice, fruit trees and sugarcane farming in fresh water areas. To 2020, to stabilise the area of salt production and rice farming, increase the area of aquaculture and mangroves, rice- brackish water shrimp and fruit tree
- The estuary along the East Sea: Strengths are rice, fruit trees and sugarcane farming in freshwater areas and aquaculture and mangroves. To 2020, to stabilise the area of double, triple rice farming, fruit trees and sugarcane, increase the area of rice-brackish shrimp in the freshwater zone and aquaculture and mangroves in the coast

#### Key products

- Agriculture: To flexibly and effectively use rice land; increase the area of rice-vegetable and rice-aquaculture; rotationally lush flood into field. To enhance specialised farming area of vegetable, fruit trees with high standards
- Animal husbandry: to develop concentrated farm with advanced technology, encourage processing industry

- Forestry: To 2020, the area of forest will increase to 330.500 ha with 158.7 ha of production forest, 95.3 ha of protection and 76.5 ha of special use forest. To develop small-scale and average-scale processing company
- Aquaculture: to plan aquaculture zone and culture object suitable with ecological condition, trends of the impacts of climate change and market demand for domestic consumption and exporting. To invest synchronised infrastructure system. To quickly convert extensive farming into advanced extensive or combined advanced extensive farming. To convert a part of extensive farming area into semi-intensive and industrial scale intensive. To stable the number of processing company and invest to improve facilities to increase productivity
- Salt production: to stabilise the salt production area and convert into advanced technique.

### Infrastructure

#### Irrigation system

- In the Plain of Reeds: to complete dyke system to prevent floods, tidal along river; to dredge and expand horizontal canal system to increase the water supply from Bassac river to Vam Co river; to actively store water, control salinity on Vam Co river by works; Investment in fresh water transfer works for Ba Dinh and Go Cong projects
- In the Long Xuyen Quadrangle: to complete bordering flood control system, salinity prevention along the West sea, irrigation system for aquaculture
- The sub-region between Mekong and Bassac rivers: to complete flood control system; to dredge and widen canals linking Mekong and Bassac rivers
- The Ca Mau peninsula: to complete system of sea dyke, estuary dyke, works to divide fresh and saline zones, improving drainage system along I highway; to dredge and widen canal system; to research in solutions for fresh water supply for shrimp farming areas; to complete the procedure for water regulation and control saline water
- The coast along the East sea: to improve dyke system along the Bassac and Mekong rivers; to complete the Ba Lai works and sea dyke, river dyke

#### Aquaculture

- To plan and build technical and production infrastructure for aquaculture. To invest environmental monitoring and warning centre in key area.

### 3.1.4 Main solutions

1. To review, improve development plans of provinces
2. To continue to innovate and form the organisation of production. To develop mechanisms and policy and create institutional conditions for farmers to change production structure, increase land use efficiency
3. To promote trade promotion and market development
  - To consolidate and expand the export of agricultural, forest and aquatic products
  - To develop market information systems and improve the operational capacity of trade promotion centres
  - To diversify the system of purchasing, processing and marketing agro-forestry -fishery products
  - To create favourable conditions for enterprises to purchase agricultural products through product consumption contracts; to support enterprises to improve capacity of processing and exporting key products in the direction of modern

- Localities select key products for building brand, trademarks, geographical indications, organising product advertisement on domestic and foreign markets; to create conditions for exporting and processing enterprises to build distribution systems, expand consumption networks and associate with distributors and retailers
  - To promote regional cooperation
  - To closely control and strictly handle smuggling and fraudulent activities in trade in agro-forestry -fishery products and agricultural materials
- 4. Renovation of research and transfer of science and technology
  - To study and produce high-yield and high-quality plant varieties and animal breeds suitable to ecological sub-regions
  - To encourage and support farmers to use new varieties and apply advanced cultivation techniques
  - To encourage investment and development of hi-tech agricultural zones under planning
  - To accelerate the application of mechanisation in all stages
- 5. Strengthening training and development of human resources
  - Implement the tasks in the Human Resource Development Strategy and Strategy for human resource development in agriculture and rural development
  - To determine the number of employees, the industry structure and the level of training needed in each locality to develop a training plan for human resources
  - To promote the socialisation of training forms
  - To efficiently implement the program on vocational training for rural labourers
- 6. To effectively mobilise and use investment capital
  - To organise annual, effective forum for investment cooperation in the Mekong River Delta
  - To continue investing from the state budget for irrigation works, fresh water supply for domestic purposes, population clusters; research and transfer of science and technology; human resource training
  - To mobilise credit capital for investment in agriculture and rural areas
  - To develop public-private partnerships and cooperation
  - To encourage domestic and foreign investment; to simplify procedures
- 7. To support agricultural and rural development adaptive to climate change, sea level rise
  - Propaganda
  - To set up a system of organisations to direct the implementation of the national target program on response to climate change and sea level rise
  - To install monitoring and warning system in the sensitive areas of the coast and estuary
  - To gradually complete irrigation system
  - Localities forecast, clearly define levels and areas affected by climate change and sea level rise to develop appropriate responding action plans and programs

### 3.1.5 Organisation of implementation

1. Units under MARD
  - To assume the prime responsibility and coordinate with the functional agencies and localities in the Mekong river delta in elaborating programs, projects, schemes and solutions for implementation of the planning
  - To guide the localities to review, supplement and develop the planning; to intensify the inspection and supervision of the management and implementation of the planning

- To guide the implementation of mechanisms and policies to promote the development of agriculture and rural areas in the Mekong River delta in the context of climate change
- 2. Other ministries
  - According to their assigned functions and tasks, they shall coordinate with the MARD in guiding localities in the regions to implement the plan
- 3. DARDs
  - To advise the provincial People's Committee to develop the plan and implement the approved plan
  - To direct and guide districts, towns and cities under the province, communes and towns to develop production plans
  - To propose programs and projects to implement the plan

## 3.2 Decision No. 816

Decision No. 816/QĐ-BNN-KH, imposing action plan to implement the decree No. 120/NQ-CP about sustainable development of the Mekong River delta adaptive to climate change

### 3.2.1 Development objectives

- To specify tasks and solutions of the resolution No.120 to subdivisions of MARD in the VMD
- To be a base for the subdivisions to develop programs of action
- To encourage organisations and individuals to implement actively, creatively and positively the resolution No. 120

### 3.2.2 Development orientations

1. To develop The comprehensive program of sustainable development of the VMD
  - Assessing the current agriculture of the VMD: Assessing the current state of re-structuring agriculture, developing new rural area and livelihood models which also investigate some key value chains and current state of agricultural industry; Assessing and projecting the impacts of internal socio-economic development on agriculture and livelihoods
  - Assessing the impacts of upstream activities on agriculture and livelihoods in the VMD
  - Assessing the impacts of climate change on agriculture and livelihoods in the VMD, developing future scenarios and solutions
  - Assessing the results of the national goal program in developing new rural area and future tasks
  - Developing suitable program of sustainable development of the VMD
2. To review and adjust strategies, planning for agricultural development in the VMD to (1) suitable with ecological conditions of subareas; (2) reduce fresh water ineffective crops; and (3) encourage agriculture production combining with ecological tourism
  - Assessing current implementation of strategies and planning
  - Adjusting planning for developing key products - increasing aquaculture and orchards area, reducing ineffective rice area
  - Planning for irrigation system accordant with keeping floods and preventing salinity
  - Strictly managing mangrove forests

- Developing payments for ecosystem services
  - Inventorying the area of natural forest and developing program of protecting, recovering and renewing mangrove and protective forests
  - Clearly planning for specialised production for subareas and services supporting agriculture in central area
  - Planning industrial zones for processing in the cities of each subarea
- 3. To review, finish policy motivating technology, biotechnology in agriculture
  - Prioritizing research in key products to develop quality varieties
  - Developing advantage products of the VMD
  - Improving the variety systems of aquaculture, fruit, rice in high quality and high yield, adaptive to climate change according to area and subareas
  - Transferring advanced cultivation process, organic techniques applying high technology
  - Strengthening agriculture extension, supporting farmers in studying and applying technology
- 4. To develop agricultural commodity, attract companies investing in agriculture
  - To review and develop policy developing large scale, modern, competitive and sustainable agricultural commodity
  - Policy encourage, attract companies investing in agriculture and rural area
  - Policy to develop cooperative economic, farm economic, value chain, production linked with consumption
  - Policy to enhance mechanisation, post-harvest technology
- 5. To develop aquaculture to be leading field of the MRD
  - Program of sustainable aquaculture development
  - The impacts of salinity intrusion on aquaculture
  - Recreate and add aquatic resources in some watershed and coastal areas
  - Changing jobs for labours in some fishery fields affecting aquatic resources and environment
  - Developing production models for certain varieties
- 6. To strictly manage natural forests
  - Investigating, assessing current state and suggesting solutions to protect and sustainably develop mangrove forests
  - Investigating and assessing current state and risks from salinity intrusion to suggest solutions in soil degradation in Long Xuyen Quadrangle
  - Program of management and development of mangrove forests
- 7. To review and plan irrigation preventing natural hazard to the year 2030, vision to 2050
  - Assessing and studying to support in planning for irrigation to prevent natural hazard to the year 2030, vision to 2050
  - Planning for irrigation to prevent natural hazard to the year 2030, vision to 2050
  - Assessing irrigation system and suggesting solutions for irrigation development
  - Program for modernising irrigation system
- 8. To develop program protect coastline and riverbank
  - Investigating current state and suggesting general solutions to urgently prevent landslide, protecting coastline
  - Planning for improving riverbank together with riverbank land use planning
  - Solutions for protecting and enhancing sea dyke
  - Investigating and assessing current state of landslide in Ca Mau province and pilot models in letting companies manage land and forests, protect and develop coasts

- Pilot model about eco-friendly, cheap, local material constructions preventing landslide, developing coasts
  - Planning mangrove forests campaigns
  - Program of resettlement of communities living along riverbank
9. To develop program changing major and create jobs for agricultural labour
  10. Propaganda for enhancing awareness, renewing mind, sharing knowledge for sustainable development of the VMD

### **3.2.3 Organisation of implementation**

1. Units under Ministries; DARDs in the Mekong river delta base on this action plan to develop and implement specific plan
2. Every 6 months and in the end of the year, to report to MARD about the implementation and reasons of the plans
3. The Planning Service is assigned to assume the prime responsibility, and coordinate with the Ministry's Office, the General Department for Natural Disaster Prevention and Control and other relevant units under the Ministries in monitoring and synthesising and reporting on the results of the implementation of this Plan