

## **Part II. OTHER DOCUMENTS**

### **THE PRIME MINISTER**

#### **Decision No. 729/QĐ-TTg of June 19, 2012, approving the master plan on water supply of Ho Chi Minh City through 2025**

##### **THE PRIME MINISTER**

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

*Pursuant to the June 17, 2009 Law on Urban Planning;*

*Pursuant to the November 26, 2003 Law on Construction;*

*Pursuant to the Government's Decree No. 37/2010/ND-CP of April 7, 2010, on elaboration, appraisal, approval and management of urban master plans;*

*Pursuant to the Government's Decree No. 117/2007/ND-CP of July 11, 2007, on production, supply and consumption of clean water, and Decree No. 124/2011/ND-CP of December 28, 2011, amending and supplementing a number of articles of Decree No. 117/2007/ND-CP;*

*At the proposal of the chairperson of the People's Committee of Ho Chi Minh City and based on appraising opinions of the Ministry of Construction,*

##### **DECIDES:**

**Article 1.** To approve the master plan on

water supply of Ho Chi Minh City through 2025 with the following principal contents:

##### **1. Scope of the master plan:**

The master plan encompasses the whole area of 2,095 km<sup>2</sup> within the administrative boundaries of Ho Chi Minh City.

##### **2. Viewpoints of the master plan:**

- To ensure that the master plan on water supply of Ho Chi Minh City through 2025 is in line with the socio-economic development master plan, general master plan on construction of Ho Chi Minh City through 2025, master plan on water supply for the three key economic regions of North, Central and South Vietnam, orientations for development of water supply in urban centers and industrial parks of Vietnam through 2025, and other relevant specialized master plans.

- To develop sustainable water supply on the basis of best utilizing all resources to meet clean water use demand; to stably supply clean water of good quality for Ho Chi Minh City with adequate and effective services.

- To assure rational and economical exploitation and use of water sources, taking into account impacts of climate change and environmental pollution; to limit exploitation of ground water.

- To encourage all economic sectors to invest in and develop water supply.

##### **3. Objectives of the master plan:**

- To concretize the water supply orientations set in the general master plan on construction of Ho Chi Minh City through 2025.

- To identify clean water demand; to rationally exploit water sources (ground water and surface water); to identify investment and development requirements of the water supply system of Ho Chi Minh City to meet clean water demand in each period.

- To unceasingly raise the quality of water supply services and assure water supply safety. To step by step modernize the clean water production, management and trading system.

- To increase the rate of population having access to clean water to 100% in the old inner

city and 98% in the new inner city and outskirts by 2015, and 100% in all areas by 2025.

- To reduce the clean water wastage and charge loss to 32% by 2015 and 25% by 2025.

- To expand water supply services to the outskirts; to improve hygienic conditions and health for rural people.

#### 4. Water supply standards:

Water supply standards are based on current standards and technical regulations.

#### 5. Water demand forecasts:

No.	Demand	2015 (m <sup>3</sup> /day)	2025 (m <sup>3</sup> /day)
1	Daily-life water	1,420,000	1,887,000
2	Industrial water	165,000	246,000
3	Water for other services	340,000	589,000
4	Water wastage	825,000	848,000
	Total	2,750,000	3,570,000

#### 6. Contents of the master plan:

##### a/ Water plants:

No.	Water plant	Capacity (m <sup>3</sup> /day)		
		In 2010	By 2015	By 2025
<b>I</b>	<b>Water from Dong Nai river/Tri An reservoir</b>			
1	Thu Duc water plant	750,000	750,000	750,000
2	Thu Duc water plant II (BOO)	300,000	300,000	300,000
3	Thu Duc water plant III (in 2012)		300,000	300,000
4	Thu Duc water plant IV (after 2018)			300,000
5	Thu Duc water plant V (in 2024)			500,000
6	Binh An water plant	100,000	100,000	100,000
	Total capacity	1,150,000	1,450,000	2,250,000
<b>II</b>	<b>Water from Sai Gon river/Dau Tieng reservoir</b>			
1	Tan Hiep water plant I	300,000	300,000	300,000
2	Tan Hiep water plant II (in 2015)		300,000	300,000

3	Tan Hiep water plant III (in 2020)			300,000
4	Kenh Dong water plant (in 2012)		200,000	200,000
	+ Water supply for the inner city		150,000	150,000
	+ Water supply for Cu Chi district		50,000	50,000
5	Keng Dong water plant II (in 2015, to supply water for Cu Chi and Long An districts)		150,000	250,000
	Total capacity	300,000	950,000	1,350,000
III	Ground water			
1	Tan Binh water plant	65,000	75,000	75,000
2	Separate wells in the inner city	2,000	0	0
3	Go Vap water plant	10,000	10,000	10,000
4	Binh Tri Dong water plant	8,000	8,000	0
5	Water sources exploited by private enterprises (ground water)	3,000	2,000	0
6	Binh Hung water plant		15,000	15,000
7	Water for industrial use (exploited by licensed enterprises)	350,861	190,000	0
8	Water for daily life/population/households	256,000	140,000	0
	Total capacity	694,861	440,000	100,000
	Total capacity for the whole city	2,144,861	2,840,000	3,700,000

## b/ Water sources:

- Dong Nai river (regulated by Tri An reservoir): 2.5 million m<sup>3</sup> of unpurified water from this source will be exploited a day for supply to water plants designed to use water from this river.

- Sai Gon river (regulated by Dau Tieng and Phuoc Hoa reservoirs): 1 million m<sup>3</sup> of unpurified water from this source will be exploited a day for supply to water plants designed to use water from this river.

- Dong main canal (regulated by Dau Tieng and Phuoc Hoa reservoirs): 0.5 million m<sup>3</sup> of unpurified water from this source will be exploited a day for supply to water plants

designed to use water from this canal.

- To study the use of water directly from Dau Tieng, Tri An and Phuoc Hoa reservoirs to meet production needs and requirements of safe and effective water supply.

- Ground water in the city: By 2025, to exploit ground water on an industrial scale with around 100,000 m<sup>3</sup>/day. Exploitation of ground water from small-sized industrial wells and household wells will be stopped according to the roadmap of ground water exploitation limitation of Ho Chi Minh City.

## c/ Unpurified water pipelines:

- The unpurified water pipeline from Hoa

An to Thu Duc water plant: To additionally build and install pumps, equipment and auxiliary works in order to increase the total capacity of these pipelines to 2,500,000 m<sup>3</sup>/day by 2025; and to build a new unpurified water pipeline of a diameter of 2,400 mm and a length of 11 km from Hoa An to Thu Duc water plant.

- The unpurified water pipeline from Hoa Phu to Tan Hiep water plant: To additionally build and install pumps, equipment and auxiliary works in order to increase the total capacity of these pipelines to 1,000,000 m<sup>3</sup>/day by 2025; and to commence building a new unpurified water pipeline of a diameter of 2,000 mm and a length of 9.1 km from Hoa Phu to Tan Hiep water plant in 2015.

d/ Water treatment technologies:

- Ground and surface water treatment technology which can assure water quality in conformity with standards and technical regulations. For ground water, the technological process is aeration - settlement - purification - disinfection. For surface water, the technological process is flocculation - settlement - purification - disinfection.

- To apply advanced and modern technologies so as to improve the efficiency of the exploitation of water, operation and management of water supply, and serve energy.

e/ Water supply pipeline networks:

- Conduits:

+ Conduits from Thu Duc water plant: To renovate the existing 2,000-mm conduit along Hanoi highway; to complete and commission Thu Duc 2,000-mm conduit invested in the

BOO form and Thu Duc - Binh Thai 2,400-mm conduit.

+ Conduits from Tan Hiep water plant: To maintain the existing 1,500-mm conduit and complete and commission a new 2,000-mm conduit.

- Grade-1 pipeline network:

+ By 2015:

- To build a new 2,400-mm pipeline from Binh Thai to Dien Bien Phu bridge;

- To build a new 1,800-mm - 1,500-mm pipeline from Binh Thai to Phu My bridge (along belt road 2);

- To build a new 800-mm pipeline along Hanoi highway from Thu Duc water plant to Suoi Tien flyover;

- To connect the existing Luy Ban Bich 900-mm pipeline of Tan Binh ground water plant with an existing 1,500-mm pipeline at Truong Chinh-Cong Hoa T-junction;

- To renovate the existing grade-1 pipelines: the 2,000-mm pipeline from Binh Thai to Dien Bien bridge, Phan Dang Luu 900-mm pipeline, Nguyen Binh Khiem 1,500-mm pipeline, Tran Hung Dao 1,200-mm - 1,050-mm pipeline, 1,200-mm - 1,050-mm pipeline from Vo Thi Sau to February 3 street, Nguyen Thi Minh Khai 800-mm - 1,000-mm pipeline, and other pipelines.

+ By 2025:

- To build a new 800-mm pipeline from Kha Van Can - Xuyen A - Le Van Khuong;

- To build a new 1,000-mm pipeline from Nguyen Duy Trinh - East-West Avenue;

- To build a new 1,000-mm pipeline from

Phu My bridge - Nguyen Van Linh;

- To build a new pipeline from Truc Bac - Ung Van Khiem - Nguyen Xi;

- To build a new pipeline along Nguyen Huu Canh street;

- To build a new pipeline along belt road 3;

- To build a new pipeline along provincial road 15 and Nha Be river.

- Grade-2 pipeline network:

To plan on building new grade-2 400-mm - 600-mm pipelines of a total length of around 250 km; to renovate and repair around 120 km of the existing grade-2 pipelines.

f/ Step-up pump stations:

To build new step-up pump stations:

- Binh Chanh pump station: This station will supply water for the vicinities of the city and urban centers and industrial parks of Long An province. Its capacity will be 30,000 m<sup>3</sup>/day during 2010-2012, 50,000 m<sup>3</sup>/day during 2016-2018, and 100,000 m<sup>3</sup>/day during 2024-2025.

- Nha Be pump station: This station will supply water for Hiep Phuoc area, the vicinities of the city and Can Gio district. Its capacity will be 50,000 m<sup>3</sup>/day by 2015 and 150,000 m<sup>3</sup>/day by 2025. In the future, the supply of water for urban centers and industrial parks of Can Duoc and Can Giuoc districts of Long An province will be considered.

7. Priority projects to be implemented during 2010-2015:

a/ Priority projects on unpurified water sources:

- Project 1: To study the feasibility and scale

of exploitation of water from Tri An, Dau Tieng and Phuoc Hoa reservoirs for supply to Ho Chi Minh City in substitution for water from Dong Nai and Sai Gon rivers (in case these rivers are polluted and salinized).

- Project 2: To build a conduit system to convey unpurified water from Tri An reservoir to water plants using water from Dong Nai river.

- Project 3: To build a conduit system to convey unpurified water from Dau Tieng reservoir to water plants using water from Sai Gon river.

Projects 2 and 3 will be implemented after Project 1 is completed and their necessity, size and investment duration are confirmed.

b/ Priority investment projects to build water plants:

- Investment project to build Thu Duc water plant III of 300,000 m<sup>3</sup>/day.

- Investment project to build Tan Hiep water plant, phase II, with a capacity of 300,000 m<sup>3</sup>/day.

c/ Priority projects to develop the pipeline network:

- Investment projects to reduce water wastage and charge loss in Ho Chi Minh City and to expand the pipeline network and the scope of supply of water for use.

- The project to restructure the network of water supply pipelines of Ho Chi Minh City in major branches.

- Projects to renovate and upgrade existing grade-1 and -2 conduits and to build new ones.

- Projects to renovate and upgrade grade-3

pipelines and to build new ones.

8. General estimation of funds and investment capital sources:

a/ The total fund for the implementation of the master plan on water supply of Ho Chi Minh City through 2025 is estimated at around VND 68 trillion, including around VND 15 trillion for investment in building Thu Duc water plant III, Tan Hiep water plant (phase II) and the water supply pipeline network from now to 2015.

b/ Investment sources:

- The state budget.
- Official development assistance (ODA), foreign aid.
- Investment credit loans.
- Domestic commercial loans.
- Capital from domestic and overseas investors.
- Other lawful sources.

9. Strategic environmental assessment

a/ Exploitation and use of water sources:

- Surface water sources:
  - + To exploit surface water from Dong Nai and Sai Gon rivers and Dau Tieng, Tri An and Phuoc Hoa reservoirs under the master plan, balancing water sources and observing technical processes.
  - + The headwater irrigation system must strictly observe the reservoir water regulation regime, especially in the dry-season months, in order to ensure water quality and exploitation flow, meeting the requirements of safe water supply.

- + To strictly control polluting sources in the river basins, such as wastewater from urban centers, industrial parks, waste from agricultural production, etc.

- Ground water:

- + To exploit and use ground water sources in a rational and limited manner and in conformity with technical processes, permitting no concentrated exploitation in each area.

- + To control the quality of ground water sources polluted in the process of urbanization.

- b/ Control of construction activities

- To apply designing and technological solutions to meet requirements of the protection of the ecological environment and water sources.

- At the stage of construction:

- + To devise rational construction measures and solutions to minimize environmental impacts.

- + To apply measures to treat air environment pollution, waste and noise made by transport and construction motor vehicles on construction sites and along transport routes.

- + To apply measures to prevent and combat unexpected incidents in the course of construction.

- At the stage of management and operation:

- + To improve the capacity of water suppliers for managing and operating water plants.

- + To work out and implement plans on safe water supply.

- + To formulate processes of prevention, detection and handling of incidents of the clean water system.

- Other supportive measures.

**Article 2.** Organization of implementation

1. The People's Committee of Ho Chi Minh City shall:

- Organize the implementation of this master plan.

- Assume the prime responsibility for, and coordinate with ministries and sectors in, organizing effective implementation of investment projects under this master plan.

- Elaborate financial plans in conformity with development investment plans for each period; formulate mechanisms and policies to raise capital for the implementation of this master plan.

- Encourage all economic sectors nationwide to build and manage water supply systems in their localities.

2. Related ministries and sectors:

- The Ministry of Natural Resources and Environment shall assume the prime responsibility for, and coordinate with ministries, sectors and the People's Committees of the provinces and cities in the aforesaid river basins in, closely monitoring and supervising unpurified water sources and water source pollution; applying measures to protect water sources, assuring sufficient water sources for Ho Chi Minh City; comprehensively studying and assessing water sources of Tri An, Dau Tieng and Phuoc Hoa reservoirs and Dong Nai and Sai Gon rivers in light of the impacts of climate change and socio-economic development.

- Ministries and sectors shall, based on their

functions and tasks assigned by the Government, coordinate with the People's Committee of Ho Chi Minh City in implementing this master plan.

**Article 3.** This Decision takes effect on the date of its signing.

Ministers, heads of related agencies and the chairperson of the People's Committee of Ho Chi Minh City shall implement this Decision.-

*For the Prime Minister*  
Deputy Prime Minister  
HOANG TRUNG HAI