I. Water Investment and Financing in China: Policy Evolution

II. Development of Water Infrastructure in China: Current Priorities and Investment Scale

III. Next-step Water Investment and Financing in China: Policy Focuses
I. Water Investment and Financing in China: Policy Evolution
China is both a developing country and major country of water infrastructure. Since the founding of New China, the Chinese government has always assigned strategic importance to water infrastructure in its overall layout of socioeconomic development. Water infrastructure has been developed on a large scale and with enormous achievements. With 6% of the world’s freshwater resources and 9% of the world’s arable land, China has fed 21% of the world population and safeguarded its own sustained rapid socioeconomic development.

### Construction Item

<table>
<thead>
<tr>
<th></th>
<th>In 1949</th>
<th>Tasks Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>River dikes</td>
<td>40,000 km</td>
<td>414,000 km</td>
</tr>
<tr>
<td>Reservoirs</td>
<td>1200 reservoirs</td>
<td>98,000 reservoirs</td>
</tr>
<tr>
<td>Annual water supply capacity of water projects</td>
<td>More than 100 billion m³</td>
<td>More than 700 billion m³</td>
</tr>
<tr>
<td>Development of effective irrigation area</td>
<td>16 million ha</td>
<td>72 million ha</td>
</tr>
<tr>
<td>Control of water and soil loss</td>
<td>- -</td>
<td>1.10 million km²</td>
</tr>
<tr>
<td>Installed capacity of hydropower</td>
<td>0.36 million Kw</td>
<td>333 million Kw</td>
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</table>
1.2 Evolution of Policies on Water investment and Financing in China

Policies on water investment and financing in China have evolved through two stages:

- **The planned economy period (1949-1978)**, development of water infrastructure followed the planned economy model of financing by the government and labor input by the people;

- **The period of reform and opening up (1979-the present)**, the model of water investment financing and investment gradually takes the form of government dominance, social participation and multi-channel financing.
1.2 Evolution of Policies on Water investment and Financing in China

Water financing and investment since the reform and opening up could be further divided into the following four sub-periods:

The first sub-period (1979-1992): In order to remedy the insufficiency of input in water infrastructure as a result of the early-stage fiscal reform, China started to emphasize the introduction of market elements into water infrastructure development. With various ways and measures adopted to finance water projects, a new pattern came into being which featured diversification of investors, multiple channels of funding, diversification of investment approaches and market-oriented project construction.
1.2 Evolution of Policies on Water investment and Financing in China

The second sub-period (1993-1997): The Chinese government produced a series of policy documents that exerted important impacts on water investment:

- In 1996, the State Council officially approved the use of fiscal discount loans for water projects, symbolizing the introduction of policy-driven financial means into the development of water infrastructure for the first time in the Chinese history.

- In 1997, a specialized fund for development of water infrastructure was established and sources for funding of water projects were expanded.
1.2 Evolution of Policies on Water investment and Financing in China

The third sub-period (1998-2010): Development of water infrastructure enjoyed drastic increase of direct central fiscal input, more local government input, continuing innovation of ways and means for water investment and financing, and better management of such investment with the adoption of various measures.

- The government practiced an active fiscal policy under which central input in water projects increased substantially, including the use of the proceeds from treasury bond issuance in development of water infrastructure.

- State Council issued the *Suggestion to Strengthen Management of Public Welfare Water Projects Construction and the Decision on Investment System Reform*, to further standardize the investment activities of governments.
1.2 Evolution of Policies on Water investment and Financing in China

The fourth sub-period (2011-the present): In 2011, the Chinese government made the decision on accelerating reform and development of the water sector, requiring the establishment of a mechanism for stable growth of water investment and setting the goal of increasing annual average combined water investment in the next decade to twice the 2010 level.

- Realize the dominant role of the government in development of water projects and prioritize water infrastructure as a target area of fiscal input;
- Make comprehensive use of fiscal and monetary policies to guide financial institutions to increase their loans to the water sector;
- Encourage eligible local government financing vehicle (“LGFV”) companies to attract the participation of social funds in development of water infrastructure via direct and/or indirect financing.
II. Development of Water Infrastructure in China: Current Priorities and Investment Scale
2.1 Major Tasks of Water Infrastructure Development: Present and the Near Future

The goal of reforming and developing the water sector in China is to complete the construction of, by 2020,

- a system for flood control and draught relief,
- a system for rational allocation and efficient use of water resources,
- a system for protection of water resources and safeguarding the health of rivers and lakes, and
- an institutional framework for scientific development of the water sector, all of which should keep in line with the demands of social economic development.

The targets of water conservancy at present and for a certain period of time include:

- construction of water saving and water supply projects,
- improvement of flood control, rural water development, as well as
- soil erosion control and ecosystem conservation.
2.1 Major Tasks of Water Infrastructure Development: Present and the Near Future

2.1.1 Construction of water saving and water supply projects, including:

- Major water saving projects for agriculture;
- Major water diversion projects;
- Major water sources projects;
- Major river and lake management projects; and
- New large-scale irrigation system
2.1 Major Tasks of Water Infrastructure Development: Present and the Near Future

2.1.2 Improvement of flood control, including:

- Management of medium and small sized rivers
  (244 tributaries of large rivers and lakes & 4000 medium and small sized rivers, total length 47,000 km);

- Improvement of small sized problematic reservoirs
  (13,400 reservoirs in total);

- Improvement of drainage capacity in important areas
  (462 pumping stations to be built or upgraded, 570,000 Kw of installed capacity to be added, and 5738 m³/s of drainage capacity to be added); and

- Construction of flood forecast and early warning systems at rural grassroots level
  (562 counties)
2.1 Major Tasks of Water Infrastructure Development: Present and the Near Future

2.1.3 Rural water development, including:

- Improvement of rural drinking water supply;
- Upgrading of pumping stations for drainage of large irrigation areas;
- Small Hydropower development in rural areas; and
- Small sized infrastructure for agriculture
2.1.4 Soil erosion control and ecosystem conservation, including:

- Integrated management of soil erosion;
- Integrated management of watercourses and ecosystem rehabilitation; and
- Connection of rivers, lakes and reservoirs
2.2 China’s Investment in Water Infrastructure

2.2.1 Investment in water infrastructure since 2011: Between 2011 and 2015, China invested more than 2 trillion RMB in water projects, 2.9 times that in the period of “11th Five Year Plan”. The investment of 2016 is 610 billion RMB.
2.2 China’s Investment in Water Infrastructure

2.2.2 Sources of water investment: three funding sources for development of water infrastructure in China:

- **Fiscal fund:** budgetary appropriations, water infrastructure construction funds, water resources fees, and gains from land transfer used for development of farmland water infrastructure;
- **Financing:** Domestic and international loans and corporate bonds, etc.;
- **Social funds:** investments from enterprises and individuals
2.2 China’s Investment in Water Infrastructure

From 2011 to 2015, the Chinese government input 1772.5 billion RMB in water infrastructure, 87.1% of the total; and social financing amounted to 261.8 billion RMB, 12.9% of the total.

Of the government input, central and local public finance accounted for 907.8 billion RMB and 864.7 billion RMB respectively. Social financing included 138.7 billion RMB loans & bonds and 123.1 billion RMB social funds.
Central fiscal input prioritized the central and western regions, old revolutionary bases, areas inhabited by minority ethnic groups, border areas and poverty-stricken areas, so as to coordinate the development of water infrastructure between different regions and between urban and rural areas.

2.2.3 Water investment goes to:

- Flood control works: 41% ;
- Projects for water allocation: 52% ;
- Projects for soil erosion control, ecological improvement and small hydropower development: 5% ;
- Hydrological monitoring and capacity building for flood control: 2%. 

2.2 China’s Investment in Water Infrastructure
III. Next-step Water Investment and Financing in China: Policy Focuses
Chin’s unique geographical and climatic environments determine its uneven temporal and spatial distribution of water resources and the subsequent persistent need to address floods and draughts.

Meanwhile, with sustained rapid socioeconomic development, new problems such as shortage of water, damage to the water ecology and pollution of the water environment have become increasingly acute.

As such, it is imperative for China to further enhance its water investment and financing mechanisms so that adequate funding could be made available for solution to existing and emerging water issues, fundamental reversal of backward water infrastructure, and construction of a system to safeguard national water security.
III. Next-step Water Investment and Financing in China: Policy Focuses

To guarantee national water security, As per the targets of water infrastructure development, the total national demand for water investment between 2016 and 2020 will be RMB 2.4 trillion.

To meet such an enormous demand requires synergy of the government and the market, i.e., the dominant role of the government should go hand in hand with the introduction of market mechanisms into financing, construction and management of water projects.
III. Next-step Water Investment and Financing in China: Policy Focuses

Major policy focuses of future water investment and financing include:

3.1 Increase fiscal input from government budgets: The government needs to reinforce macro-control, funding support and policy guidance, and build a robust mechanism for stable growth of fiscal input into water projects, so as to increase fiscal input into the water sector and guarantee the demand of water infrastructure development.

3.2 Increase the amount of loan funds used for water projects: We will refine the policies on providing financial support to water projects, encourage financial institutions to grant medium and long-term policy-driven concessional loans, and explore the establishment of an insurance system for floods, water logging and draughts.
3.3 Give full play to the role of “market mechanisms” in the following 4 aspects:

3.3.1 Gradually purchase from non-government sources water-related public services such as project’s construction, operation and maintenance, practice professional non-government construction and management of water projects, and encourage management of water works as properties.

3.3.2 Further expand areas of water infrastructure development for market participation, and actively develop financing methods like BOT, TOT, BT and PPP.

3.3.3 Establish and improve the government subsidy mechanism for construction and management of public-good water works, and a mechanism for rational water pricing of water projects, and attract various market players into the construction and management of water projects.
3.4 Make better use of foreign investment: Develop water infrastructure with active use of loans from international financial institutions such as the World Bank and Asian Development Bank and from foreign governments, draw upon advanced foreign management, and realize the demonstration effect of foreign-invested projects.

3.5 Improve supervision and management of water investment: Intensify supervision over the use of water investment, enhance the regulations on supervision, post-evaluation and performance assessment of water projects, conduct total-process regulation over investment management, upgrade investment management and return on investment, and expand the right of the general public to information, participation and supervision.
Cooperation with Asian and Pacific Region’s Countries

- From China’s experience, there is no single financing policy solving water issues.
- China is willing to join hands with neighboring and developing countries to achieve SDG goals.
- Financing channels include: bilateral agreement, AIIB, South-to-South Cooperation Fund, Silk Road Fund, etc.
Thank You!