


Analysis on Dujiangyan Irrigation System and Its sustainable development experience



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3rd World Irrigation Forum
1-7 September 2019, Bali, Indonesia

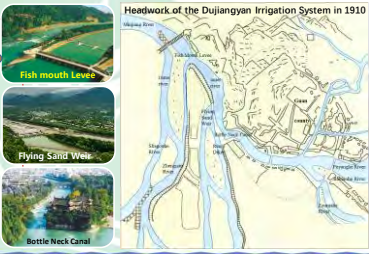
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Introduction

Length: 500M
Include: Baizhang Dike and Jingang Dike

Wide: 200m
Function: Water diversion and sediment discharge

Wide: 17~23m
Function: water diversion and sluice control



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Introduction

• Irrigation Area of Dujiangyan Irrigation System

City	County
Chengdu City	Dujiangyan, Pi, Pengzhou, Wenjiang, Shuangliu, Tianfuxinqiu, Xinjin, Longquanyi, Xindu, Qingbaijiang, Jintang, Chongzhou, Dayi, Qionglai, Jianyang, Wuhou, Qingyang, Jinmiao, Linjiang, Chengshu, Gaowen
Meishan City	Pengshan, Renzhou, Qingshan, Donggo
Deyang City	Guanghan, Shifang, Mianzhu, Jingyang, Lujiang, Zhongjiang
Mianyang City	An, Fucheng, Santai
Suining City	Sheshong, Daying
Ziyang City	Yanjiang
Leshan City	Kaiyan

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Introduction

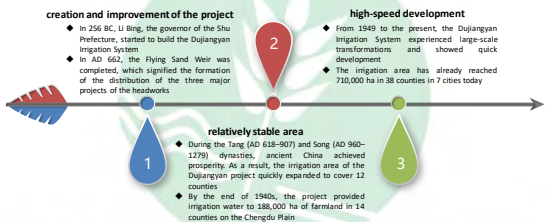
- ◆ The headworks of the Dujiangyan Irrigation System is located in the city of Dujiangyan
- ◆ The irrigation system was built in 256 BC
- ◆ In over 2,200 years, it played a huge supportive role to local economic and social development and left rich water culture heritage to later generations
- ◆ It is a monument in the history of the development of water conservancy projects in China
- ◆ Its canals have the benefits of irrigation, flood prevention and control, and water transport

"water is under control and man does not know what famine is"

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History



creation and improvement of the project

- ◆ In 256 BC, Li Bing, the governor of the Shu Prefecture, started to build the Dujiangyan Irrigation System
- ◆ In AD 662, the Flying Sand Weir was completed, which signified the formation of the distribution of the three major projects of the headworks

high-speed development

- ◆ From 1949 to the present, the Dujiangyan Irrigation System experienced large-scale transformations and showed quick development
- ◆ The irrigation area has already reached 720,000 ha in 18 counties in 7 cities today

relatively stable area

- ◆ During the Tang (AD 618-907) and Song (AD 960-1279) dynasties, ancient China achieved prosperity. As a result, the irrigation area of the Dujiangyan project quickly expanded to cover 12 counties
- ◆ By the end of 1940s, the project provided irrigation water to 188,000 ha of farmland in 14 counties on the Chengdu Plain

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Irrigation System

- The Dujiangyan Irrigation System is an engineering system that consists of headwork, water diverting channels at various levels in irrigation district, ponds, weirs
- The project has created a water environment characterized by crisscrossing rivers and densely-distributed ponds, lakes and swamps on the Chengdu Plain and farmlands



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Management experience

- In various historical periods, multiple management types have brought orderly management and full vigor to the Dujiangyan Irrigation System
- The management of the irrigation system involves both highly-centralized administrative system and non-government resources allows all benefited parties to bear their respective management responsibilities and corresponding obligations



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Irrigation System

Inventory List of Dujiangyan Irrigation System

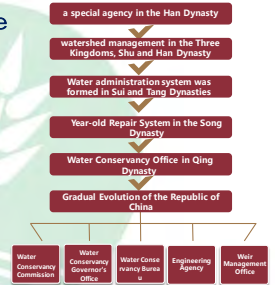
Heritage Item	Name	Numb	Location
Headwork	Fish Mouth Weir	1	Dujiangyan City
	Bottle Neck Canal	1	Dujiangyan City
	Total	111	
Main Canals and Sub-Main Canal	Puyanghe River	1	Dujiangyan City
	Baitaiche River	1	Dujiangyan City
	Zouqiang River	1	Dujiangyan City
	Jiang'anhe River	1	Dujiangyan City
	Shagouhe River	1	Dujiangyan City
	Houchehe River	1	Dujiangyan City
Branch Canal		260	
Field Ditches at Various Levels Below Branch Canal		Many	irrigationsystem area
Important Projects of Branch Canals and Those Below This level	Yangkuhe River	1	Dujiangyan City
	Shangyan Weir	1	Dujiangyan City
	Yangkuhe River	1	Wenjiang District
	Dujiangyan Weir	1	Shuanglu District, Xiqin County
	Qinjiang Weir	1	Shuanglu, Pengshu, Jianzhou
	Fudidi Dam	1	Jinlu District
	Shuangheyan Weir	1	Shifang County
	Changsheng Weir	1	Chongzuo City, Dayu County, Xiqin County, Qinghai County
	Huashengyan Weir	1	Gaowen District
	Zhoujiang Weir	1	Qinghaijiang District
Buildings for Sacrifice and Worship	Shanbaoding Canal	1	Dujiangyan City
	Erwang Temple	1	Dujiangyan City
	Fulang Temple	1	Dujiangyan City
Water Resources Administration Office		1	



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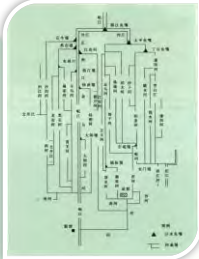
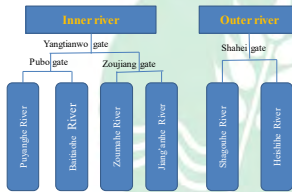
Management experience

Dujiangyan began to set up special administrative organs in Han Dynasty, and Dujiangyan set up Water Conservancy Office in Yongzheng period, and Yamen set up in Guan County (now Dujiangyan city)



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Irrigation System



Canal System (Before 1950)



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Management experience



- ◆ The generation of weir or trench managers can be roughly divided into voting system and rotation system

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Management experience

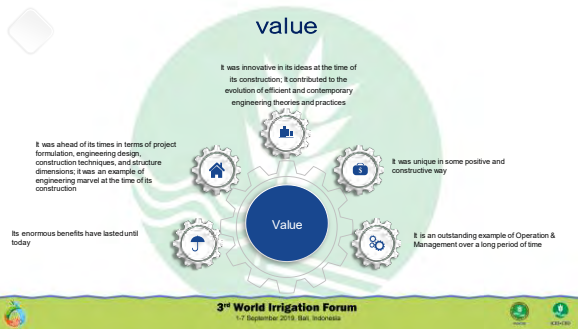
During its 2000 years of sustainable utilization, Dujiangyan Weir has generated rich irrigation culture

- This magnificent building is Er'wang Temple, the weir temple
- In the 3rd century, to encourage the development of agriculture, the central government of China enshrined Li Bing as the water god and worshipped him on the national level
- In the Qing Dynasty, Er'wang Temple was where the government officials and weir managers met to discuss project management issues and solve water use conflicts



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