Pingxiang's Achievement in Sustainable Development

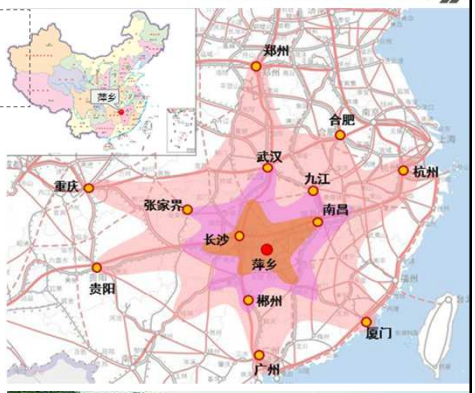
Wenli Feng Deputy Mayor of Pingxiang City

Deqing, Nov.20th 2018

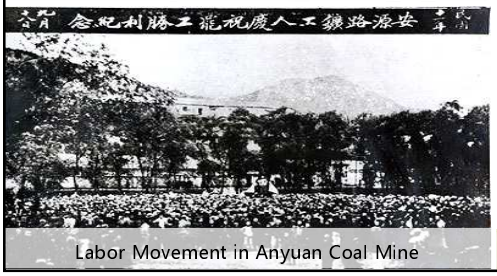
General Situation

West Gate of Jiangxi Province

One of Cradleland's of modern industry



Hanyeping Co. ,largest coal-iron enterprise in Asia

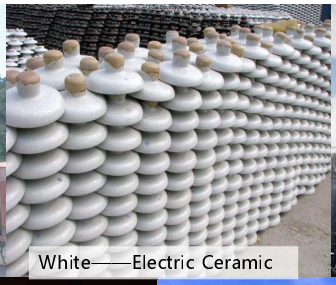


Labor Movement in Anyuan Coal Mine

Origin of the Autumn Harvest Uprising

An important industrial city in Jiangxi Province with the 5 pillar industries

Black——Coal


White——Electric Ceramic


Grey——Cement


Red——Fireworks


Golden——Metallurgy

PART.1 1

Challenges for Urban Sustainable Development

1 PART.1 Challenges

Frequent Floods and Waterlogging Issue


2006, flood in Pingshui River


flood in Pingshui River

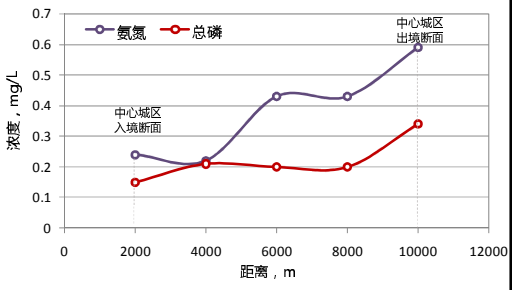

Wanlongwan historical waterlogging Area


flood in Wufeng River

2 PART.1 Challenges

Deterioration of Water Environment

When Pingshui River, the mother river of Pingxiang passes through the city, the water quality tends to deteriorate.



Water quality deterioration process of Pingshui River 2015

3 PART.1 Challenges

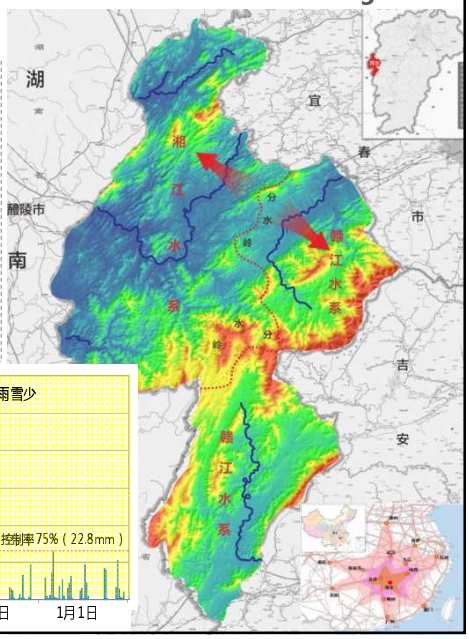
Degradation of Ecological Functions

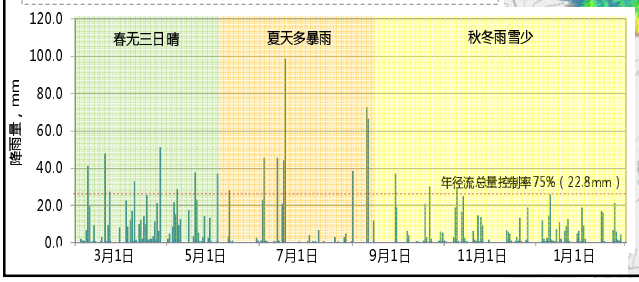
- Buildings crowds in the riverside, and some rivers are narrowed due to occupation , reclamation and sedimentation.
- Besides, there is no green belt on the shore, the ecological environment is extremely fragile.

4 PART.1 Challenges

Engineering Water Shortage

- Pingxiang has abundant rainfall (1600mm/a), but mainly concentrated in April to June.
- In the mean while, sitting in the Hunan and Jiangxi watershed, the city lacks guest water resources.
- Neither obtain water nor keep it, thus drought occurs in dry season and waterlogging occurs in rainy season.





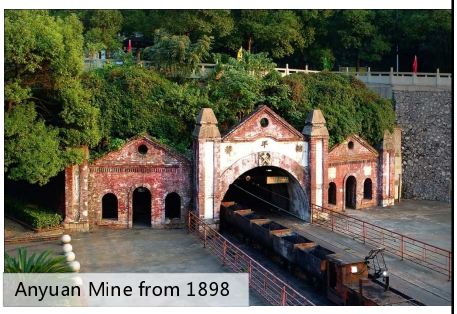
Natural Resources Depletion

one of the first 12 resource exhausted cities in China.

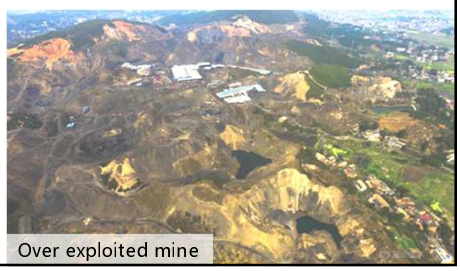
Dual pressure of resource exhaustion and de-capacity.

Pingxiang's traditional resource-dependent development path is unsustainable.

Pilot cities of resource exhausted



Anyuan Mine from 1898



Over exploited mine

PART.2 贰

Sponge City— Sustainable Development Pathway

2.1 Basic Concept of Sponge City
2.2 Significance to Sustainable Development
2.3 Path and Method of Construction
2.4 Sustainable Development Achievements

1 PART.2

Basic Concept

In 2013, General Secretary Xi Jinping made a clear statement at the Central Conference on Urbanization: "Building sponge cities with functions of natural accumulation, natural infiltration and natural purification."

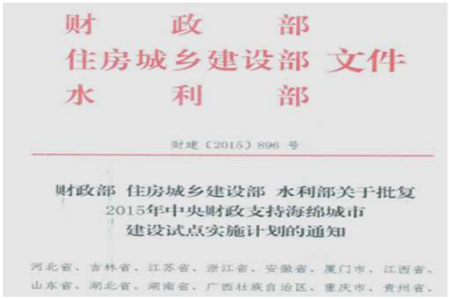
2 PART.2

Significance

Systematic solution to water related problems

Activation of urban development

Promotion of urban construction quality



财 政 部
住房城乡建设部 文件
水 利 部

财建〔2015〕896号

财政部 住房城乡建设部 水利部关于批复2015年中央财政支持海绵城市建设试点实施计划的通知

河北省、吉林省、江苏省、浙江省、安徽省、厦门市、江西省、山东省、湖北省、湖南省、广西壮族自治区、重庆市、贵州省、

List of the first Sponge City Pilot Cities

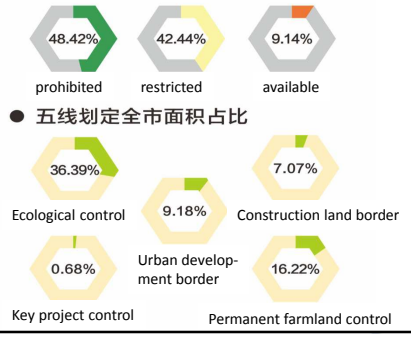
Pingxiang, Jiangxi	Baicheng, Jilin
Jiaxing, Zhejiang	Hebi, Henan
Chizhou, Anhui	Wuhan, Hubei
Xiamen, Fujian	Changde, Hunan
Zhenjiang, Jiangsu	Chongqing
Jinan, Shandong	Suining, Sichuan
Qian' an, Hebei	Gui' an, Guizhou
Nanning, Guangxi	Xi' an, Shaanxi

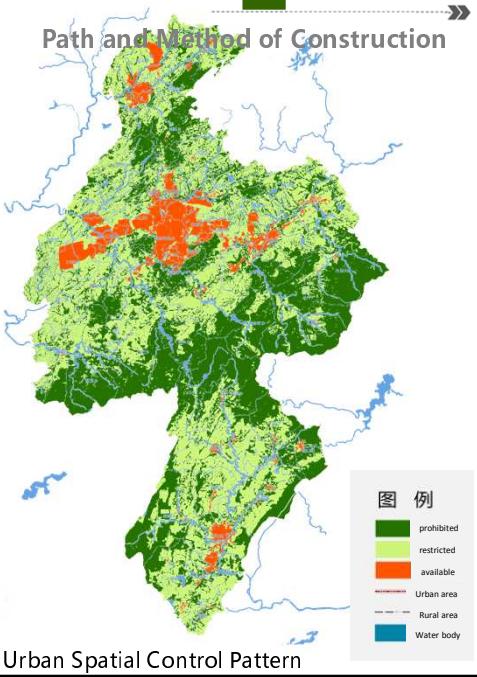
3 PART.2

Path and Method of Construction

Universal Management

Based on the overlying analysis of the geospatial information, the whole city is designated into 3 districts and controlled by 5 lines.





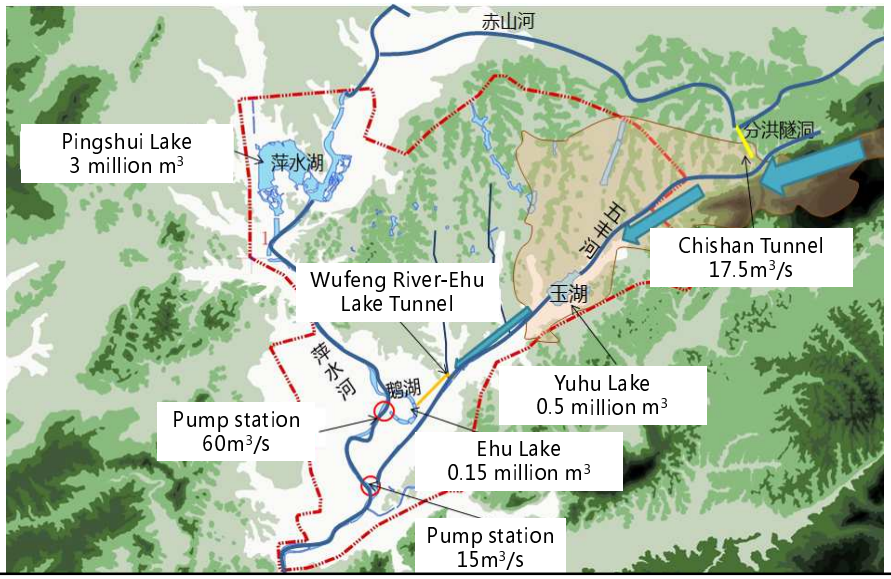
Urban Spatial Control Pattern

3 PART.2

Path and Method

System Construction

Water storage and drainage system "Dam in the upstream, store in the midstream, discharge in the downstream"



System Construction

3 PART.2 Path and Method

Water storage and drainage system

In the upstream: Chishan Flood Diversion Tunnel

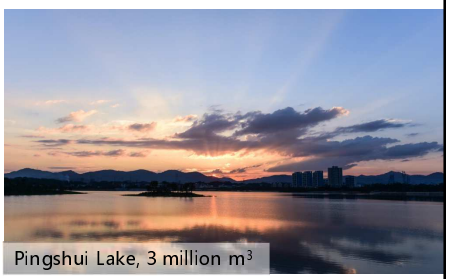
System Construction

3 PART.2 Path and Method

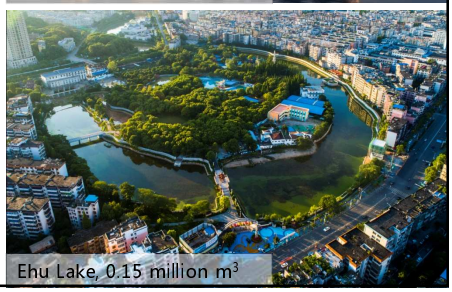
Water storage and drainage system

In the midstream: storage and retention Lakes


Pingshui Lake, 3 million m³


Pingshui Lake, 3 million m³


Yuhu Lake, 0.5 million m³


Ehu Lake, 0.15 million m³

System Construction

3 PART.2 Path and Method

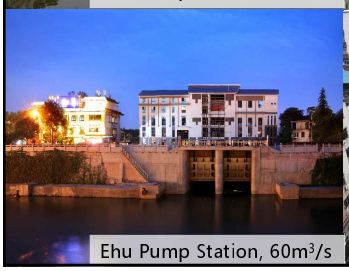
Water storage and drainage system

In the downstream: drainage box culverts and pump stations


Ehu Pump Station, 60m³/s


Wufenghe-Ehu Box Cuvert


Wufenghe PS, 15m³/s


Ehu Pump Station, 60m³/s


Gongyuanlu Box Culvert


Flood Diversion Sluice

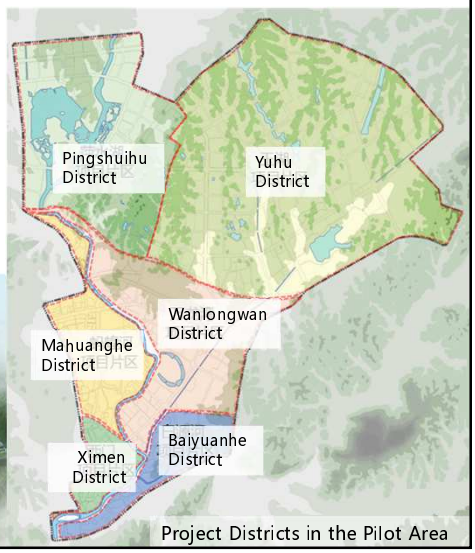
Partitioning Administration

3 PART.2 Path and Method

➢Oriented by problems, old town constructions should be carried out in project packages, considering factors such as drainage zoning and engineering conditions.

➢Oriented by targets, new district constructions should focus on protecting natural storage space and building city-wide sponge skeleton.


Sponge City planning for New District



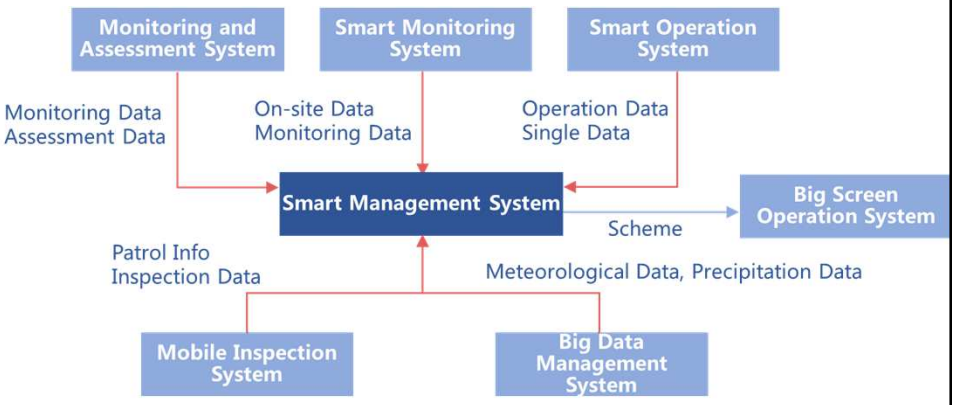
Project Districts in the Pilot Area

3 PART.2

Path and Method

Smart Management Platform

Smart City Facilities Operation and Management Platform



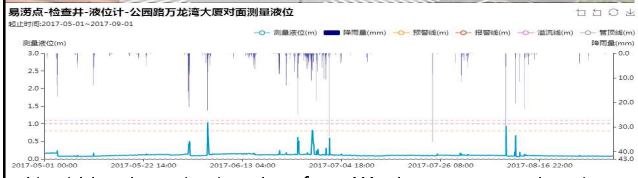
1. Optimize drainage, eliminate waterlogging

4 PART.2

Achievements

July 8. 2016, severe waterlogging with rainfall of 79.8mm

June 1, 2017, no waterlogging with rainfall of 94.0mm



Liquid level monitoring data from Wanlongwan waterlogging

From 2017 till now, no waterlogging event has been reported.

June 2017, Pingxiang experienced the heaviest rainfall in 18 months. Total rainfall in June is 540.8mm, 130% higher than average data.

During this rainy season, all liquid level monitor are free of alarming .

1. Optimize drainage, eliminate waterlogging

2016， before

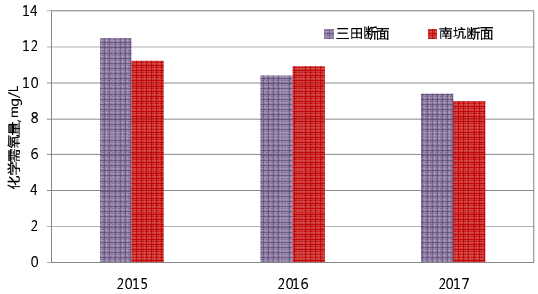
June 2016, before

2017， after

July 2018, after

2. Create Sponge City, rebuild healthy ecosystem

Urban water environment has been steadily improved

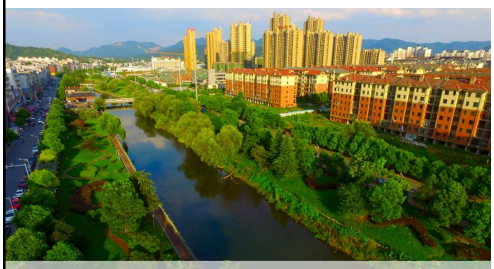


Before : lots of sewage outfalls distributed along the Wufeng Rive

After: all sewage outfall were controlled and reformed

4 PART.2 Achievements

2. Create Sponge City, rebuild healthy ecosystem



Baiyuan River after ecological transformation

Water ecology of rivers and lakes has improved greatly

Abundant aquatic plan communities

Biodiversity is significantly increased

4 PART.2 Achievements

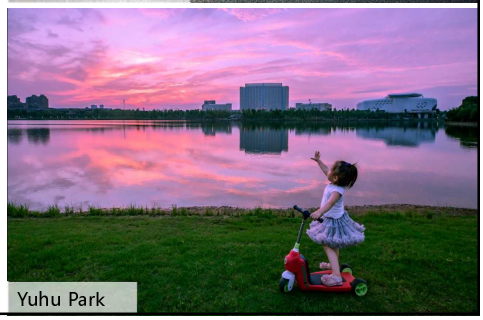
2. Create Sponge City, rebuild healthy ecosystem

Metamorphosis of insudtrial and mining city

Pingxiang upgraded the public infrastructure and urban environment comprehensively. A group of high-quality parks were built, the city image and living environment were improved significantly.

Huoshen Square

City Greenway



Yuhu Park

2. Create Sponge City, rebuild healthy ecosystem


Dongsheng Kindergarten


Jindiancheng Housing Estate


Binhu West Road


Jinluofeng Park

3. Accelerate industrial transformation, activate urban development

"Pingxiang Sponge Industry Development Planning"

"Jiangxi Sponge City Construction and development Investment Group Company".


萍乡市人民政府文件

萍府发〔2017〕8号

萍乡市人民政府关于印发《萍乡市海绵产业发展规划》的通知

各县（区）人民政府，市政府各部门：

《萍乡市海绵产业发展规划》已经市政府常务会审议通过，现印发给你们，请结合各自实际，认真贯彻执行。

（此件主动公开）

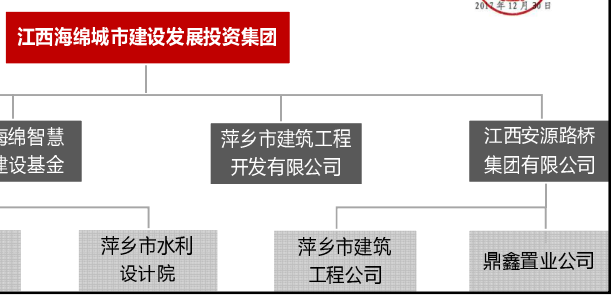

萍乡市人民政府文件

萍府发〔2017〕9号

萍乡市人民政府关于组建江西海绵城市建设发展投资集团公司的通知

市国有资产监督管理委员会：

经市政府常务会议审议，同意组建江西海绵城市建设发展投资集团公司。请抓紧落实，在2018年2月底前，完成集团公司组建工作。

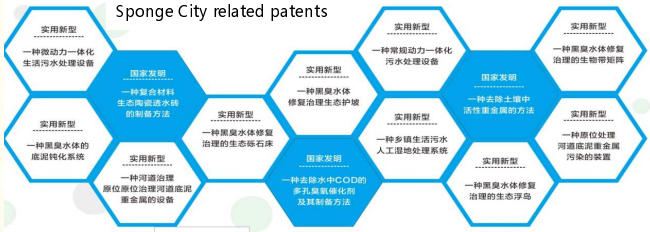


3. Accelerate industrial transformation, activate urban development

A large number of local traditional ceramic, commercial concrete and other building material enterprises have successfully transformed

Permeable bricks and concrete produced by local factories

Sponge City related patents



3. Accelerate industrial transformation, activate urban development

4 PART.2 Achievements

Product Line of Ceramic Permeable Brick

4.Promote Urban Transformation and high-quality development

Sponge Town began to take shape

first city in China to construct Sponge town

Sponge City Innovative and Venture Base

Wupi Sponge Town

5. Build smart city, improve efficiency

Geographic information technology is integrated into the operation system of spongy city facilities.

Real-time Monitoring

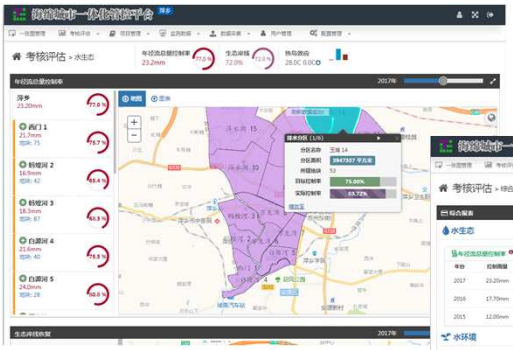
Intelligent Dispatching Simulation

5. Build smart city, improve efficiency

4 PART.2

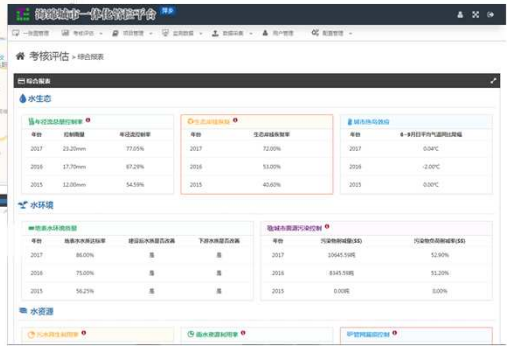
Achievements

Geographic information technology is integrated into the operation system of spongy city facilities.



Performance Evaluation on Whole Pilot Area

Performance Evaluation on Drainage Divisions



5. Build smart city, improve efficiency

2 PART.2

Sustainable Development Achievements

Geographic information technology is integrated into the operation system of spongy city facilities

Thank you!

PING XIANG

萍乡

Welcome to beautiful Pingxiang!

Sponge city construction makes Pingxiang Better

Spatial geoinformation makes Sponge city smarter