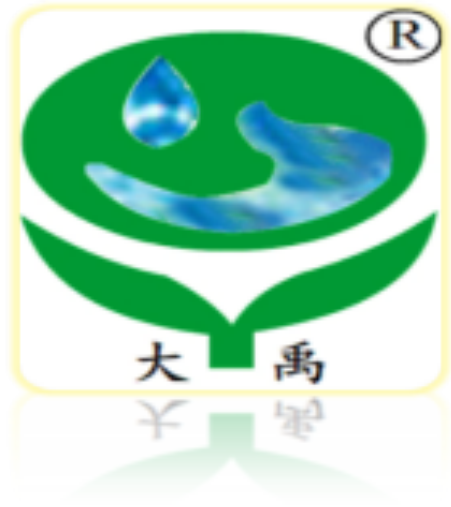


# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development



## A Case Study of PPP Irrigation Project by DAYU Irrigation Group in China



以大禹治水精神  
做大禹节水事业

股票代码: 300021

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<b>Project:</b>	<b>Yuanmou High Efficient Water-Saving Irrigation Project</b>		
<b>Country:</b>	The People's republic of China	<b>Sector:</b>	...
<b>Dates of the project:</b>	07.2016	<b>Stage of the project:</b>	Operate and Maintain

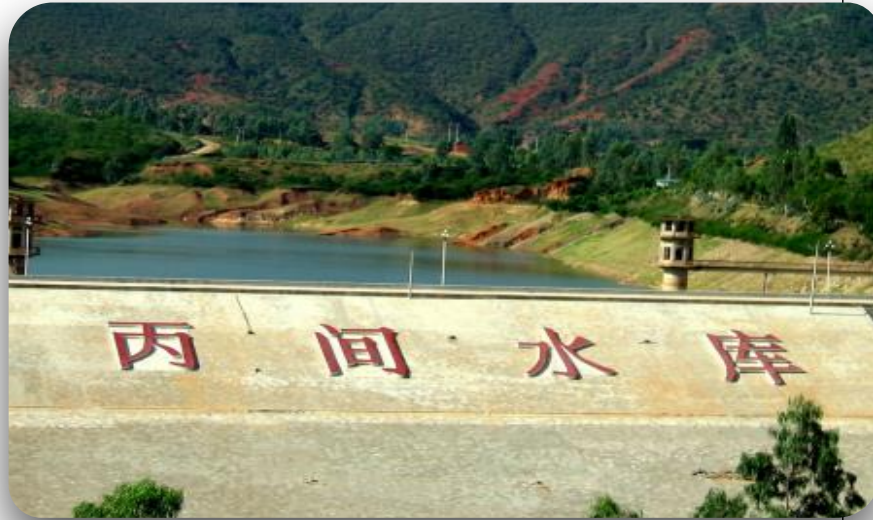
## Description of the project:

The project is located in Yuanmou County of Yunnan Province in China, it is about 190km from Kunming City. The total irrigated area of the project is 7,600 hectares with smart water measurement devices, automatic control and information management system and on-farm drip irrigation systems.

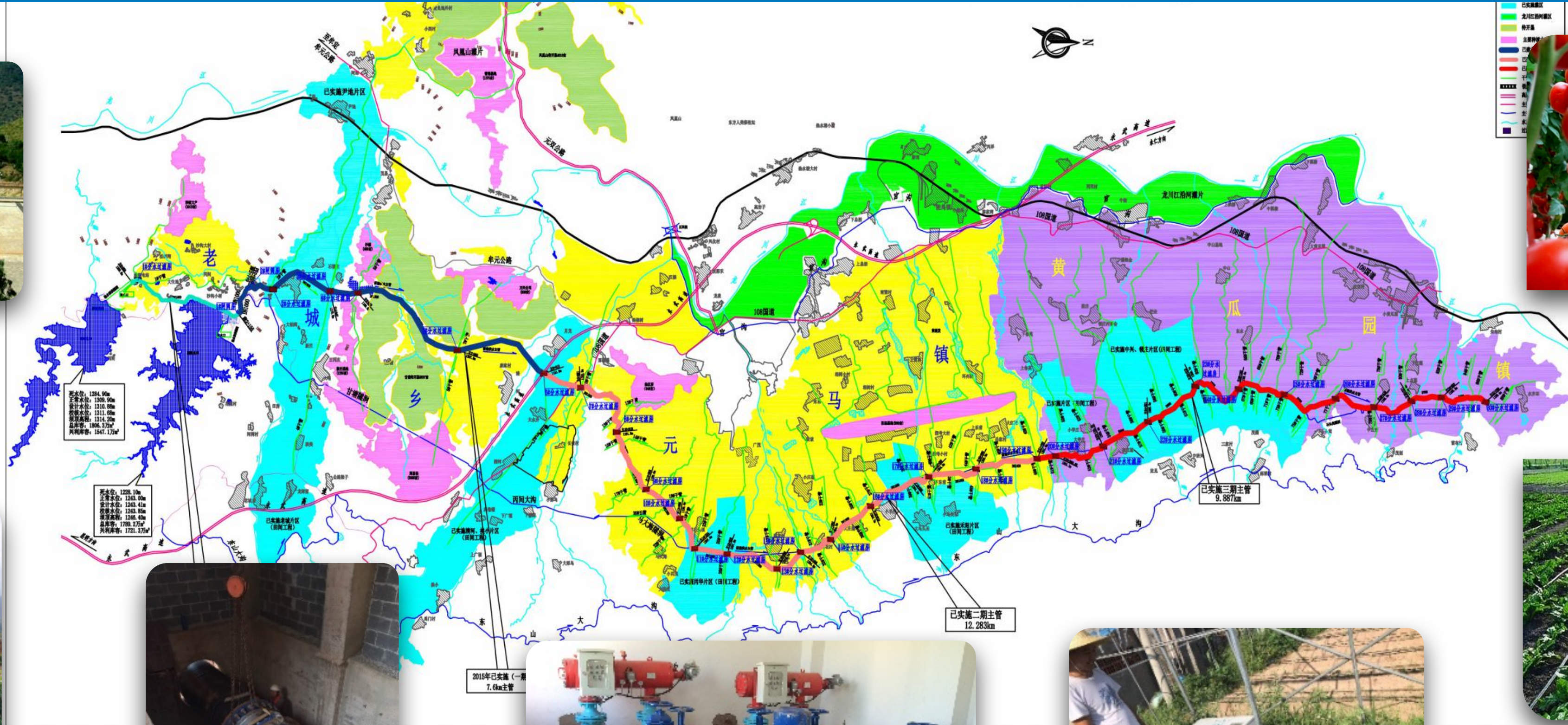
Items	Number
Reservoirs	2
Water intakes	2
Main pipeline	189 km
Sub-main pipeline	266 km
Lateral pipelines	345 km
Distributed pipelines	242 km
Smart water measurement devices	5000 sets



## The networks of Yuanmou High Efficient Water-Saving Irrigation Project



**Reservoirs**



**Fruit tomato**



**Main pipelines**



**Sub-Main pipelines**



**Diversion station**



**Intelligent measurement facilities**



**Drip irrigation system**



## Construction of pipelines and drip irrigation system





Project:	<b>Yuanmou High Efficient Water-Saving Irrigation Project</b>		
Country:	The People's republic of China	Sector:	...
Dates of the project:	2016.7	Stage of the project:	Operate and Maintain

## **Compliance with UNECE People-first PPP criteria:**

**The farmers in the project area mainly depend on agriculture for their livelihoods. With the favorable temperature the local farmland is called as natural greenhouse suitable to grow crops in whole year, but water is the main constraint for farmers grow crops year round since the annual average precipitation is only 642mm and the annual average evaporation is 8032 mm.**

**This PPP project successfully solved the problems for developing irrigation project in fund raising, optimal system design and construction, sustainable operation and maintenance by introducing new mechanisms.**



## Main mechanisms introduced in Yuanmou High Efficient Water-Saving Irrigation Project

- 1. Jointly invested by government, Dayu irrigation Group, social capital and local farmers;**
- 2. Integrated and comprehensive design, construction, operation and maintenance;**
- 3. Managed by specialized team with involvement of all stakeholders, including the public, social capital, private and local farmers;**
- 4. Enhanced the participation of water users by involving in management, water users not only get benefit from irrigation but also the project operation;**
- 5. Encouraged water saving by introducing step water prices;**
- 6. Introduced water right and water trade mechanism;**
- 7. Extended service to farmers beyond water, such as fertigation and market information.**



## Participation of stakeholders



## Beneficiaries of local communities of Yuanmou High Efficient Water-Saving Irrigation Project



**Before construction of the project**

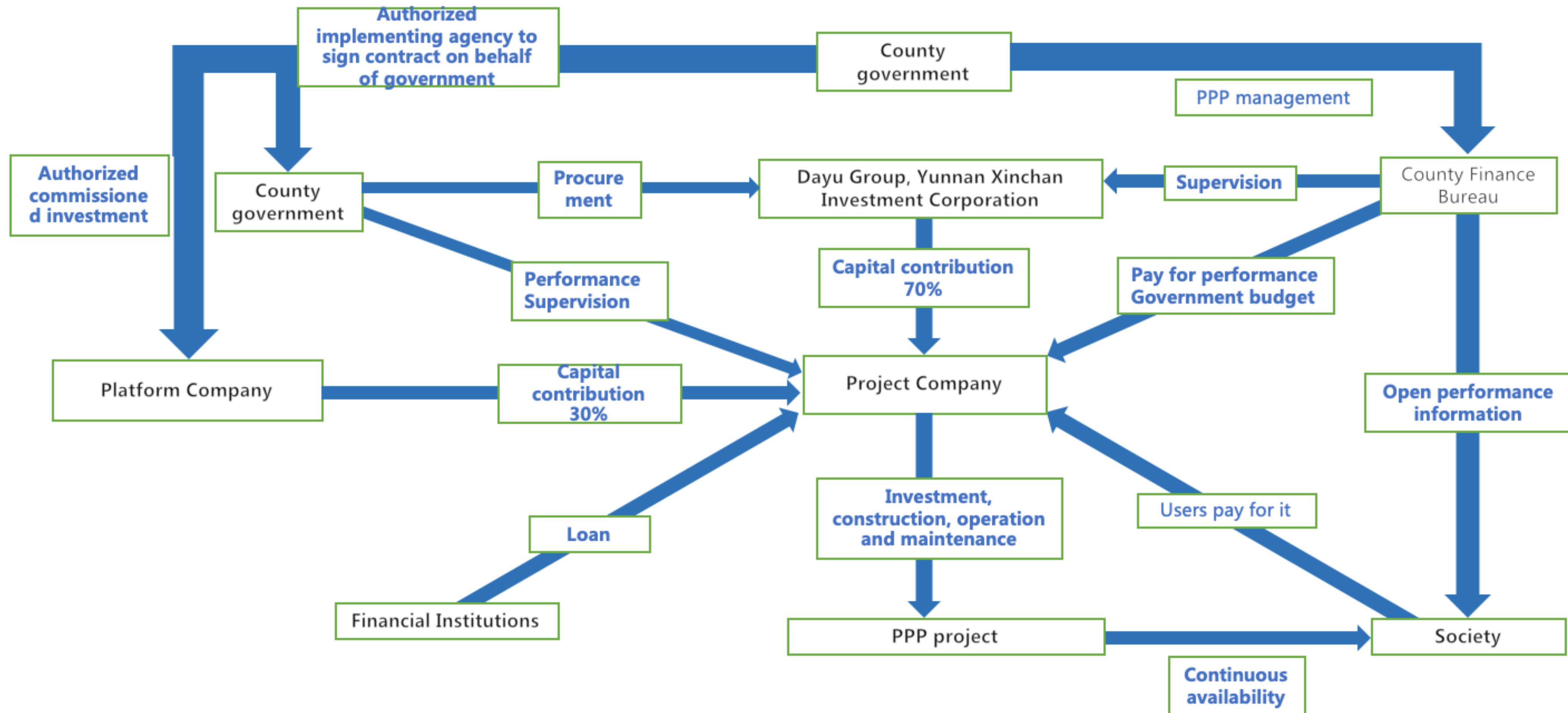


**After construction of the project**

Beneficiary	Number
Township	4
Village	110
Household	13,300
People	66,300



## Project organization and management structure





## Yuanmou High Efficient Water-Saving Irrigation Project help farmers to grow High-value crops





## Outcome 1: Increase access to essential services and lessen social inequality and injustice

**Due to small land holdings and low economic return of conventional farming practice farmers are vulnerable people in competition for water, and the quality of water supply service is very low. Usually farmers could not get water on demand and couldn't grow high-value cash crops and get good yields.**

**This PPP project solves the above problems by integrated design, construction and management of the water-saving irrigation project. Farmers can receive water on demand for growing high-value cash crops. Equipped with smart water management system farmers in the project can get equal service. With the complete and advanced drip irrigation system the labor intensity for irrigation has been reduced significantly which is of importance for women and vulnerable farmers.**



## Outcome 2: Enhance resilience and responsibility towards environmental sustainability

**By using regulated reservoirs as water source, the project can guarantee the irrigation water demand in extreme dry season under climate change. By applying drip irrigation and fertigation technology, water saving is achieved, and run off from farmland is also reduced, which not only increasing water using efficiency, but also reducing the losses of fertilizers and contributing an environment protection.**





## Outcome 3: Improve economic effectiveness and sustainability

**The project generates the following benefits:**

- 1. With the operation of the project, in the project area cropping intensity has increased from 1 crop to 3 or 4 crops a year, and crop variety changed from conventional field crops to cash crops, as the result the gross revenue from farmland is increased from 21,000 USD to 85,000 - 113,000 USD per hectare.**
- 2. Due to the increase in agricultural production, the processing industry and transportation have developed dramatically, which increasing sustainable employment and local income.**
- 3. Due to scaling up of farm size and application of automation in the management of irrigation system, labor intensity for irrigation is reduced and more labor can shift from field to other sectors;**
- 4. More employment opportunity is generated for women labors in harvest of fruits and vegetables, processing industry and marketing products.**



## Outcome 4: Promote replicability and the development of further projects

**Yuanmou High Efficient Water-saving Irrigation Project is the first PPP project in agricultural irrigation sector in China. With the successful operation of the project, it attracts many visitors from government departments, companies, institutions, related professionals. The project is serving as the training base for new developing model and reform in irrigation sector. Dayu Irrigation Group is building more PPP water-saving projects in Yunnan Province, and the model will be applied in other provinces with favorable conditions.**





## Outcome 5: Fully involve all stakeholders in the projects

**All stakeholders, including government sectors, financial institutions, irrigation companies, farmers, business sectors, etc. have involved in the design, construction and management of the project. All stakeholders were directly involved in the PPP project and directly affected by it. All of them have received benefits from the PPP project.**

- **Government achieving local social and economic development in sustainable way by increasing agricultural production, generating employment opportunity, saving water and reducing fertilizer application.**
- **Financial institutes can get the expected investment return;**
- **Irrigation company get economic return from the design, construction and operation of the project;**
- **Farmers get benefit for increasing income, reduced labor intensity and better service;**
- **Business sectors get more business opportunities in product processing industry and marketing.**



## Conclusion

**Yuanmou High Efficient Water-saving Irrigation Project is a successful replicable PPP project in irrigation sector.**

**Thank you for your  
attention!**