**The dataset includes four parts**: 1) channel measurement dataset; 2) field management dataset collected in 2010, 2011and 2012; 3) crop pattern dataset, investigated at Daman and Yingke irrigation district, describes the plant structures; 4) socio-economy dataset, which collected at Daman and Yingke irrigation district in 2010, 2011, 2012.

**1) Channel measurement dataset description**

The dataset contains channel flow data measured at Daman and Yingke irrigation district from spring to autumn, 2012. The number included in each file name shows which round of irrigation the data recorded.The first line of each excel is the header that includes the name of irrigated area, the name of irrigated village, irrigation time and irrigation amount.

**Special explanation**:

The name of the irrigated area contains “**she**”. The administrative level of “**she**” is inferior to that of “village”. A village can include several “**she**”.

**2) Field management dataset description**

The dataset involves the field management collected at Daman and Yingke irrigation district in 2010, 2011and 2012.

The first line of each excel is the header which contains irrigation round, TownShip name and she name, fertilizer name, fertilization time and fertilization amount, as well as pesticide name, pesticide using time and pesticide amount.

**Special explanation**:

1. “**She**”, the same as explained above;

2. “**Mu**” is a land area unit in China. 1 mu = 2000/3 m^2 = 1/15 hectare.

**3) Plantation structure dataset description**

Crop pattern dataset, investigated at Daman and Yingke irrigation district, describes the plant structures, and is stored in the folder of “plantationstructure”.

The first line of each excel is the header which contains township name, she name, crop name, sowing time, harvest time, plant area, water amount required for irrigation, field water availability, crop yield, and crop output value.

**Special explanation**:

1. “**She**”, the same as explained above;

2. “**Mu**” is a land area unit in China. 1 mu = 2000/3 m^2 = 1/15 hectare.

**4) Socio-economy dataset description**

socio-economy dataset, which was collected at Daman and Yingke irrigation district in 2010, 2011, 2012, is stored in the folder of “socialeconomy”. The dataset describes some socio-economy information, including place name the residents living in, the population, per capita agricultural income, non-agricultural income, water consumption, living space, as well as the average educational level.

**Special explanation**:

1. “**She**”, the same as explained above;