Rice-fish co-culture in southern China dates back more than 1000 years. The rice-fish co-culture system in Qingtian, Zhejiang Province is one of FAO’s Globally Important Agricultural Heritage Systems (GIAHS). Co-culture rice with fish provides both rice grain and aquatic protein. Rice-fish farming systems have tremendous potential for increasing food security and alleviating poverty in rural areas; they also use the same land resource efficiently to produce both carbohydrates and animal protein. In rice-fish farming systems, water can be used to simultaneously produce the two basic foods.

**DESCRIPTION OF THE INNOVATION**

The technical package includes the following components: (1) installation of temporary physical structures, such as trenches and pits to protect the fish during field operations, and to prevent them from escaping; (2) rice and fish varieties which are more adapted to rice-fish co-culture systems, including rice varieties adapted to deeper water than in rice monoculture, and fish varieties adapted to shallower water than in fish monoculture; and (3) daily field management procedures, including the coordination of irrigation, fertilization, pest control, and fish feeding.

**DESIGN AND SHARING OF THE INNOVATION**

Rice-fish system processes in a hill area: a. rice seedling breeding; b. carp fry breeding; c. field preparation that includes field configuration for rice culture and fish, and water outlet and inlet; d. rice transplanting; e. fry releasing into rice field; f. a setup rice-fish co-culture system.

**BENEFIT FOR FAMILY FARMERS AND FOOD AND NUTRITION SECURİTY**

Raising fish in rice fields can improve the stability of rice yields, and increase rice yields up to 5 percent in most cases. Rice-fish co-culture usually reduces or eliminates chemical inputs; thus, the rice products can be certified as organic food or green food, and can be sold at a higher price in the market. Fish produced in the system can reach an average level of 970 kg/ha, at which the gross income of fish is much more than that of rice in monoculture. Moreover, fish production can effectively increase family farmers’ protein supply, thereby improving their nutrition.

**SOCIAL, ENVIRONMENTAL AND ECONOMIC IMPACTS**

- High economic returns can help to recover abandoned rice fields in the region.
- Non-point source pollution is reduced compared with rice monoculture.
- Water consumption is decreased compared with fish monoculture.

**LESSONS LEARNED AND RECOMMENDATIONS**

Rice-fish co-culture systems can be also be used in plain areas, such as the picture showed below, in Deqing County, Zhejiang Province. A well-designed refuge, with a trench and pit, is important. Machines, such as those used for transplanting and harvesting, can be used in rice-fish co-culture systems in plain areas.