

## Group 1

### Summary Description of Small Holder Farming Irrigation Field Site



The Klong Jinda Project is a community initiative focused on integrated, organic agriculture activities, watershed management, and climate change adaptation strategies. The community project, composed of **12 families**, covers an area of **30 hectares**. Each family farm grows around a **variety of crops** via integrated farming techniques. The initiative is based on the philosophy that nature has a natural balance through mutual benefit; that the environment has an innate ability to function, adapt and be productive on its own.

Klong(Canal) Jinda has been greatly affected in recent years by temperature changes and sporadic precipitation. These are two of many effects resulting from global climate change. To maintain and increase productivity and profitability of their labor, the family farms are working with adaptive agriculture strategies, such as integrated pest management and returning to sustainable, traditional planting and irrigation techniques. Due to the frequent occurrence of floods and other climatic impacts the communities have implemented mitigation measures to protect their crop/livelihoods from potential threats and risk to their farming systems.



They have also made efforts to address and adapt to climate change issues that affect certain crops. The farmers at Klong Jinada use tried and tested planting techniques to improve their farm production. The community has tried to adapt to the growing urbanization that is taking place in the area by identifying new market opportunities where they can sell their products and secure marketing of farm products in the future.

#### Scenario:

A big component for strong production of any farming system is **water management**. The Tha Chin River runs near the Klong Jinda Community, feeding into their primary irrigation canal, called the Klong Jinda or Jinda Canal. The Canal is about **10 meters wide** and was constructed generations ago. Since this initial infrastructure development, community farmers have been digging smaller irrigation canals for their crops, which measure a meter wide and about half a meter deep. **This main canal and the irrigation system have serious problems of soil erosion and improper water distribution.**

An additional irrigation component is therefore being added to Klong Jinda Farming Community. The activity will be to rehabilitate and expand the Jinda Canal and the smaller irrigation canals. In the current phase, the time and funding is sufficient to harden all canals (Jinda canal and irrigation canals) to stop erosion and expand the coverage of the irrigation canals by 25%. This will provide better irrigation and result in increased farm production, especially for the high-water-consuming crops.

### **Example Project Activities for this type of project:**

1. Irrigation Construction
2. Hardening of irrigation canals (with rock or cement)
3. Demo plot
4. Training (Farmer field school)
5. Providing improved seeds
6. Water management
7. Storage of seeds
8. Storage of chemicals

Based on your field observations during the site visit at the Klong Jinda Project, what do you think would be the environmental impacts of constructing this additional irrigation scheme, as the scenario above proposes? What would be the principal mitigation measures that USAID implementing partners would have to take in order to prevent or attenuate these impacts? Please use the relevant *Small-scale Environmental Guidelines* chapter provided, as well as the EMMP template (also provided) to assist you in your analysis.

### **ADDITIONAL INFORMATION**

The community initiative encompasses an area of approximately **70-80 rais** (approximately 53 acres). The initiative emphasizes **agroforestry methods of farming** and avoids growing the types of plants that require lots of chemicals and pesticides. Initially members were motivated to start implementing organic methods because of the health issues and high investment costs resulting from the use of agrochemicals. However, the main challenges that they face as a result of using organic farming methods is that this method can be less profitable, and the competition from other farms that use agrochemicals.

Some farmers still use some agrochemicals, but they are working on limiting the amount of chemical use. The application method for these chemicals is by using small canal boats to spray the chemicals onto the fields. The applicator wears some personal protection equipment such as gloves, protective glasses and adequate clothing. After reducing the amount of chemical use on the farms, the members have found out they have fewer health issues, compared to the past.

There are two main organic farming methods that can be observed at the Klong Jinda Project:

Type 1: the owner converts the main plants in the farm from vegetable and fruit into ornamental plants, which require less chemical use. Some of the methodologies seen at this site will be 1) intercropping, 2) water management, and 3) climate change adaptation.

Type 2: the owner converts the farm into 100 percent organic production. The farm techniques are based on the argoforesy method. Some of the methodologies at this site will be 1) intercropping and 2) organic agriculture.