

CONCLUSION

The JICA Study Team, in cooperation with Local Government Engineering Department (LGED), has made the Study for Rural Development Focusing on Flood Proofing in Char and Haor areas since December 2000, and reached the following conclusions.

Existing problems in Char and Haor areas

- (1) People in Char and Haor areas have been facing various problems including flood related problems, livelihood related problems and social problems. Many of these problems are inter-related to cause undesirable phenomena. Widespread poverty is the most serious problem phenomenon to be alleviated, and vulnerability of rural communities in flood and other crisis is an important factor behind the widespread poverty. Rural people do not have sufficient capability to mitigate flood damages or to improve their livelihood.
- (2) The widespread poverty and large damages/losses by flooding are main problem factors contributing to the lack of capital accumulation. A typical vicious cycle is formed between the three major problem phenomena: widespread poverty, lack of capital accumulation and vulnerability in flood and other crisis.
- (3) There are five fundamental problems commonly for Char and Haor areas. Two of them are inherent problems: geographic isolation and transient nature of livelihood in Char and Haor areas. The latter is inherent to some extent due to physical conditions such as unstable nature of Char as well as habitual floods with inundation, erosion and wave actions (in Haor). The other three fundamental problems are institutional and social: inadequate development planning and weak local governments, traditional feudal system, and large number of in-migrants caused by population pressure.

Development goal, objectives, strategy and framework

- (4) The ultimate goal to be aimed by the rural development in flood-prone Char and Haor areas is to realize self-reliant rural communities with people empowered by viable livelihood activities and flood-proof living environments. To attain the goal, development objectives are: (i) to protect human lives from the “most severe flood” and household properties from the “severe flood”, (ii) to facilitate the improvement of living environment with flood-proofing under the “normal flood”, (iii) to support the livelihood development by providing training, education and other services together with flood-proofing under the “normal flood”, and (iv) to contribute to the enhancement of people’s capacity to make decisions on their own development through their participation in development projects.
- (5) The basic strategy for the rural development, considering limited financial and administrative capacities and lessons learned from existing rural development projects, consists of the following: (i) a step-wise development strategy is adopted starting with small

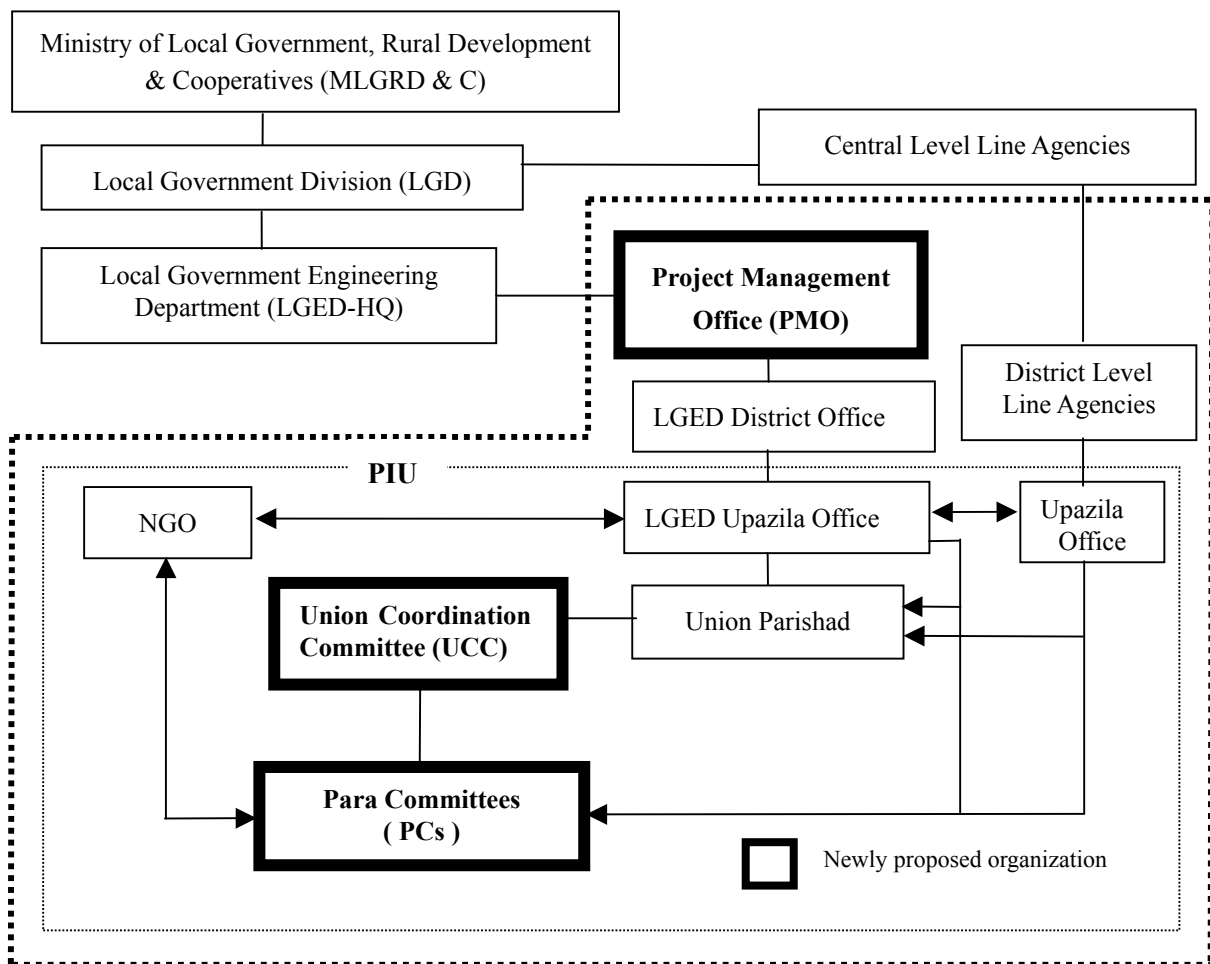
model projects, (ii) the model projects are formulated for Char and Haor areas that have comparatively more favourable conditions without hindrances or adverse interventions, but with revealed willingness of people to help themselves for flood mitigation, (iii) a participatory approach is taken throughout the planning, implementation, operation and management of every project in order to establish the sense of ownership by the local people and to empower them for continual flood-proofing and livelihood development efforts, and (iv) governmental organizations, NGOs and local communities will be involved in close coordination and communication with each other under the designated implementing arrangements over the entire project cycle.

Development plan

- (6) Model projects will be formulated first, to experiment the implementing arrangements with local participation. The model projects include, as components, minimal structural or physical measures that can be planned in detail and implemented immediately by LGED within its capacities, as well as flood warning and evacuation system, set of support services for livelihood development, and saving and credit system. Implementation of the model projects should be monitored under the same implementing arrangements, and the monitored results, including beneficiaries' response, the degree of participation, etc., will be evaluated and feed back to further project implementation for replication in other areas based on the basic strategy.
- (7) Model projects will be implemented in more promising areas for flood-proofing, where minimal structural or physical measures and support services for livelihood development would be combined and implementing arrangements with local participation would be experimented. The model projects formulation uses gram to select target areas, and takes para or a small group of paras as a unit to organize the local people. The objective grams for formulating model projects will be selected considering the cost-effectiveness of structural measures and chance of successful flood-proofing and livelihood development.
- (8) The model projects as formulated should not be taken as a gift for villagers, but rather provide the basis for discussion to elicit their ideas. The LGED Upazila officer should take the initiative to conduct a series of community workshops, at which the model projects as formulated would be presented first, emphasizing their concepts and expected outcomes. Stakeholders to be involved in project implementation will be identified at these workshops, and division of responsibilities among them in general and contribution of resources in kind and in cash by them. In particular, the local people should be made aware of cost involved in the project and their sharing expected in the project implementation and management.
- (9) Implementation of the model projects would start upon successful people organizing through detailed planning for structural/physical measures, the flood warning and evacuation system, and the savings and credit scheme. The latter would include the preparation and submission of initial proposals for new livelihood activities by local people supported by

NGOs, extension workers or community leaders. The model projects will be monitored both by LGED and organized people.

- (10) Based on the case studies of ongoing rural development projects in Char and Haor areas supported by international aid organizations and NGOs, the four conditions need to be satisfied by the implementing arrangements of rural development in flood-prone Char and Haor areas. These are (i) participatory system at the village level, (ii) management functions at higher levels, (iii) self-managed credit scheme, and (iv) income-generating activities. It is proposed that the condition (ii) be satisfied with at two levels: the central level with the Project Management Unit and the local level with the Project Implementation Unit. These and the condition (i) are proposed in the project implementing arrangements as schematized in the following:



Model project planning

- (11) The following two grams are selected as priority areas for model project formulation from

Char and Haor, respectively.

Char area: Algar Char gram in Erendabari Union, Fulchhari Upazila, Gaibandha District, with a total population of 3,139.

Haor area: Gurai gram in Gurai Union, Nikli Upazila, Kishoreganj District with a total population of 12,132.

(12) The model project for Algar Char gram is formulated with the following components.

I. Flood proofing and improvement of living environment

- Raising school ground as open shelter with an area of 4,500m²,
- Improvement of approach road with a length of 500 m,
- Raising of 61 homesteads,
- Raising of six hand tubewells with a new construction and five improved, and
- Training on flood warning and evacuation.

II. Support services for livelihood development

- Home gardening promotion with nutrition education to women,
- Poultry promotion to landless women,
- Skill training on hand weaving to landless women, and
- Training mulberry plantation and cocoon production to landless farmers.

III. Savings and credit scheme

- Compulsory saving, and
- Surcharges to user fees of livelihood support services.

(13) The model project targets five paras out of seven in Algar Char gram, and is to be implemented in two phases. The project cost totals Tk.3,400,000 including direct cost, land acquisition cost, indirect costs and contingencies. Annual maintenance cost is estimated at Tk.103,000.

(14) Through the support services, income generating activities are expected to be enhanced to generate annual profit of some Tk.360,000. Savings and credit schemes will be viable to cover annual O&M costs and increase capital, assuming that all the households in objective para(s) will participate in compulsory savings and that beneficiary people to support services for livelihood activities will save 20% surcharges to the total cost for starting new income generating activities.

(15) The model project in Algar Char gram is assessed viable both in of economic and financial terms, technically feasible and socially sound.

(16) EIA results shows that the flood proofing would bring some adverse effects on the natural

and living environments. To ensure sustainable livelihood development with enhanced resources capacity, enhancing agricultural activities with soil management, proper treatment of top soil when move soils, planting cover crops, involvement of less privileged in the project to reduce income disparity, proper planning to reduce domestic and other human wastes, and measures to avoid the risk of arsenic contamination in the hand tubewells, are recommended.

(17) The model project for Gurai gram is formulated with the following components.

I. Flood proofing and improvement of living environment

- Mound protection with brick masonry with a length of 1,756 m,
- Raising of hand tubewells with 19 new and 27 improved, and
- Training on flood warning and evacuation.

II. Support services for livelihood development

- Home gardening promotion with nutrition education to women,
- Duck raising to landless farmers,
- Technical training on fish culture utilizing borrow pit to landless farmers,
- Nursery development for social forestry to landless women, and
- Training on entrepreneurship & business management for a parboiling plant operation to landless farmers.

III. Savings and credit scheme

- Compulsory saving, and
- Surcharges to user fees of livelihood support services.

(18) The model project targets eight paras out of seventeen in Gurai gram, and is to be implemented in three phases. The project cost totals Tk.15,903,000 including direct cost, land acquisition cost, indirect costs and contingencies. Annual maintenance cost is estimated at Tk.230,100.

(19) Through the support services, income generating activities are expected to be enhanced to generate annual profit of some Tk.239,500. Savings and credit schemes will be viable to cover annual O&M costs and increase capital, assuming that all the households in objective para(s) will participate in compulsory savings at a rate of 5% of total annual income.

(20) The model project in Gurai gram is assessed viable both in economic and financial terms, technically feasible and socially sound.

(21) EIA results shows that the flood proofing would bring some adverse effects on the natural and living environments. To ensure sustainable livelihood development with enhanced resources capacity, enhancing agricultural activities through diversification and proper soil

management, planting cover crops, involvement of less privileged in the project to reduce income disparity, proper planning to reduce domestic and other human wastes, and measures to avoid the risk of arsenic contamination in the hand tubewells, are recommended.