

## Feasibility Study on Irrigation Development based on Flood of Hill Torrents, Pakistan

(Period of the study: 15 months from April, 1991 Our assignments: Arid Land Agriculture)

### Background of the Study

The target area of the study is D.G. Khan area that locates at the western part of Indus River in Punjab State, Pakistan. Since agriculture depends on the traditional irrigation based on the flood flow from the rainfall in the summer season, the production is extremely unstable because of highly fluctuated timing and amount of rainfall. Therefore many barrages have been constructed since 1950 and the canal networks have been completed in 1968. After completion of the canal network, people migrated from mountain area to the irrigated area seeking for stable income. Consequently, the facilities distributing the flood flow to the crop field were not maintained and finally damaged. Furthermore, the flood damages are affecting to the irrigation canals, crop fields, road/railway network at the lower stream. The control of flood and the utilization of controlled flow to the agriculture becomes important issue in the area.

### Outline of the Study

Under such circumstances, the study have been carried out by 8 experts of irrigation/drainage, meteorology/hydrology, soil/land use, agriculture, field prevention, design/estimation and agricultural economy. In the phase 1 study, collection and analysis of information and field survey have been carried out by each expert and accordingly the basic development strategy was formulated and the priority areas were also selected. In the phase 2 study, more detailed survey was carried out for the priority areas and various plans on flood protection, irrigation, watershed management, land use, agricultural development and necessary facilities were formulated. For land use planning, the conservation and management of range land was carefully considered.

### Our Assignments

- Collection and analysis of information on soil and land use of the target area,
- Field survey on soil and land use situation of the target area,
- Information collection and field survey on the management of range land in the target area,
- Analysis of development constraints related to the land resources, and
- Formulation of land use and range management plan by considering the natural and social conditions.

