

Water management for agricultural development

DR. MD. ABDUL GHANI

In the context of the changing global environment and socio-political and economic conditions of Bangladesh, agricultural development of the country and its sustainability deserve active government-private partnership. A comprehensive agricultural development action plan is required to face the challenges of feeding growing population. Appropriate marketing system development is also required to ensure price support to the growers at the same time price of the essential commodities should be within the purchasing power of low-income group of the society. First attempt will be to increase and stabilise production of selected essential commodities through maximum utilisation of land, water and human resources of the country. In subsequent attempts, the country can plan for value addition to the products and for commercial agriculture, which have been started at limited scale but need expansion.

Cost of production of major crops is high in Bangladesh and power use in agriculture is low compared to even neighbouring countries. Furthermore, whatever is produced, a bulk of it is lost after harvesting (post harvest losses). Therefore, efficient use of irrigation water, effective use of irrigation facilities, use of machine for agricultural operation and saving/minimising post harvest losses are required to make agriculture cost effective in Bangladesh. In this article, possible contribution of water management for agricultural

development will be discussed. Discussion on agricultural mechanisation and processing may be undertaken if opportunities arise.

Water availability situation over the year compels Bangladesh to address issues like irrigation, flood control and drainage, which are contradictory in nature. For example, Bangladesh receives annually about 7.5 meters of

ble area can be irrigated of which about 64% are presently under irrigation. Due to fluctuation in availability and lack of control over surface water, about 79% of the irrigated area use groundwater.

Major constraints to face for irrigation, flood control and drainage systems development and operation are; lack of continuity in policy supports, withdrawal of surface water at

- Water Table goes below suction limit (> 8 meter)
- Arsenic concentration exceeds safe limit, >0.05 parts per million (ppm)
- Soil salinity in coastal area increases beyond crop tolerance level (> 4 mmohs/cm or 4 dS/m)
- Surface water sources especially smaller rivers, and low lying areas (beels) become dry.

Therefore, comprehensive plans and implementation methods should be practiced to address water management related issues. Sustainable agricultural development and improved livelihood will be possible if land and water resources of the country are used judiciously. This will require taking advantages of improved technology available in the country or adapted from abroad after adaptive trials.

It has been observed over several years that both tube wells using groundwater and large-scale canal irrigation systems in most parts of the country are operating at lower than 50% of their efficiency level. Experiences indicate that over all irrigation efficiency levels of tube wells and canal irrigation systems can easily be increased to 75% and 70% respectively. That means another about 25% area can be brought under irrigation with existing irrigation infrastructures. Therefore, performance improvement of existing irrigations systems can be one of the ways of making the systems cost effective.

Concern about water management
Recently, much concern is being

expressed about need for improving performance of irrigation systems. However, it is not new as irrigation systems are operated with low efficiency since beginning of irrigation in Bangladesh. Over the years, terminologies changed from Thana irrigation program (TIP) in early 1960s to water management during early 1970s, to on-farm water management (during late 1970s and 1980s), to improved water management (during early 1990s), to participatory water management (since late 1990s) and to the recent integrated water resources management (IWRM). In real sense there have not been any significant improvements in water management and efficient use of water resources. It is believed that there have been changes of terminology but not much in utilisation level of water resources and its management since late fifties to date. To understand it and to establish status of water management, let us see how water management is defined:

The most comprehensive definition of water management compared to general definition of management can be explained using the definitions. Management in a comprehensive way has been defined as "the process and activity of carrying out the task so that a number of diverse activities are performed in such a way that defined objective is achieved by the combined efforts of a group of people (French and Saward, 1975)."



PHOTO: STAR

water, 5.5 meters from surface flow and 2 meters from rainfall. About 90% of the huge water volume is available during June to September each year and remaining 10% is received during October to May. Therefore, water environment forces Bangladesh for irrigated agriculture supported by flood control measures and provision of drainage facilities. With the water potential of the country, about 76% of the cultiva-

upstream, lack of timely availability of fuel, oil and electricity for smooth operation of irrigation systems, funds and interest for maintenance of flood control, drainage and irrigation (FCDI) systems.

Water management is a critical issue in Bangladesh for about two to two and half months (Mid February to April). During this period of the year,

CONTINUED ON PAGE 18

AB RETAIL



Insurance facility
up to 1.85 lac

শ্রমপূর্ণা



Elegant Banking for Elegant Women

Women in Bangladesh have excelled in their respective professions, be it in law, medical, engineering, banking or even home making. Considering their day to day banking needs AB Bank introduces 'Shampurna' - a special savings account for women.

For details please contact (01712022900 or 01912235886)

AB Bank Limited

