

The Political Economy of Flood Control Programmes in Bangladesh

by Shapan Adnan

THE "flood problems" of Bangladesh are complex, rather than being just "one thing". Their constituent elements include: (a) rise in riverine water levels, (b) water logging, and (c) river erosion. These three elements, while being interrelated, do not necessarily go together, and may well arise from quite distinct causal factors.

Progress of the Flood Action Plan and Other Flood Protection Programmes during 1990.

The "institutional matrix" dealing with flood-related problems, post-flood relief and rehabilitation, included both national and international agencies (World Bank, 1989, FPCO, 1990a). These were concerned with the Flood Action Plan (FAP), over and above other flood protection programmes lying beyond the Plan's ambit. Overall, this mix of institutions displayed a certain incoherence in terms of the multiplicity and overlapping of their functions. This lack of coordination was also indicative of the continuing decay of competent institutional structures of integrated planning within Bangladesh, stretching from the national to the local levels.

Despite a flurry of consultancy activities up to the end of 1990, the actual progress of the Flood Action Plan has been much less than what might have been expected, given the impressive array of institutional mechanism and reprocess at its disposal. The overall pattern was that of cumulative delays in the paperwork, submitting bureaucratic formulation, processing and approval of the plan components. The actual number of components increased from the original 26 around 30. There were instances of revisions of time-schedules, many of which were self-evidently unrealistic, and will almost certainly be further delayed (FPCO, 1990a; 1990b; 1990 c).

National Trends in Flooding
The countrywide pattern of flooding in 1990 was of signifi-

cantly lesser magnitude compared to those of 1987 and 1988 (RAS, 1990a; 1990b). After rising flood levels during June and July, there was, by and large, recession of water from the basin of the Brahmaputra-Jamuna. The Ganges-Padma and the Meghna basins showed fluctuations in terms of the rise and fall of water levels during the period from August to early October. Significantly, the peak flows of these major river systems did not coinciding 1990.

However, much of the floodwater flowing downstream from the northern regions of the country gave rise to flooding in its southern tracts. In many cases, such flooding consisted essentially of waterlogging, caused by faulty drainage systems in low-lying depressions (beels and baors), as well as the coastal areas.

Another significant pattern was that of increased intensity of bank erosion association with the recession of water levels. This was particularly discernible in the basins of the Brahmaputra-Jamuna, the Ganges-Padma, as well as along their confluence.

A quite different phenomenon consisted of "flash floods" of great intensity, reported from the hilly border areas of Greater Chittagong, Chittagong Hill Tracts, Sylhet and Mymensingh. While such rapid downrush of water occurred several times during this period, their duration did not last more than a few days at a time.

There were certain long term processes which were found to be aggravating the flood and drainage situation in Bangladesh. These included siltation and the rising of the river-beds to levels significantly higher than the surrounding countryside. If such processes were to occur on a larger scale, then the very strategy of the Flood Action Plan, based essentially on construction of massive embankments and polders, was likely turn out to be somewhat self-defeating in the long run.

Urban-Industrial Centres
Urban-Industrial centres provided a special case of flood affected zones, because a then concentration of population, vital services, facilities and assets. Many small towns and trading centres of the country were found to have experienced inundation by floods, erosion by river action or, in most cases, waterlogging due to accumulated rainwater caused by faulty drainage systems.

The Dhaka City Flood Protection Project

The FAP's contribution to the flood protection programme for Dhaka city is relatively insignificant compared to the Dhaka Flood Protection Project (DFPP), initiated earlier. Up to late October, 1990, the flood protection constructions planned for Phase I of DFPP, covering western half of the city's perimeter, had been largely, but not fully, completed. Even some of the earth-made embankments and R.C.C (reinforce concrete) walls were characterized by technical faults and design problems, including sections of embankments which had caved in in addition, may be purposedly made, or left open, by business interests in order to permit the transmission of goods, as well as for passages used by ordinary people.

Furthermore, significant deviations appear to have occurred from the original plan. Large chunks of settlement have been left outside the protected zone, the most notable of which is Char Kamrangi, a densely populated area with extremely low-income households. Also significant is the report that pumping out of water is not authorized until accumulated water inside the "protected zone" of the city has risen up to a certain height above sea-level. It is apprehended that if such instructions were really followed during any future floods, then much of the city would be already submerged before extraction of water began.

Furthermore, such submerged areas would comprise mostly of slums and low-income settlements, where the majority of the city's population live. In other words, effective protection would be available only to those people, typically river, who are living on higher grounds and structures.

Reportedly, the Ministry of the Environment & Forests has recommended that certain segments of the DFPP should be held in obedience until measures for the city's increasing drainage and pollution problems could be integrated with it. Nonetheless, there have been disturbing press reports alleging that construction works have continued despite such cautionary recommendations from government bodies. If true, this would indicate a trend towards "rushing into construction" without waiting for the completion of environmental impact assessments and other relevant studies, nor for their results to be fully understood, evaluated and publicly debated.

Social, Economic & Demographic Consequences

River erosion, as well as flooding and water logging, led to massive loss of property, including land and physical infrastructure located in such areas. Many people became destitute overnight, reflecting the flood-generated problems of landlessness and assetlessness. Damages to communication, education, health and other vital services constituted losses in the sphere of social infrastructure. In the submerged and deserted village settlements, the very security of people's lives and property deteriorated. Looting and robbery by criminals, often moving on mechanized boats, was widespread in these areas, reflecting the real state of the "law and order" situation.

To be contd. in the next issue of the Development Pg in "The Daily Star"



The Bulls are still the mainstay of agricultural work in underdeveloped Bangladesh.

Irrigation : a Nagging Dilemma for Burma

The authorities in Rangoon are still weighing the pressing need for improved irrigation against the high costs of construction. by Min Thu

BURMESE peasants depend largely on direct rainfall to water their farms.

While Burma has invested considerable sums on irrigation, rainfed agriculture provides over three-fourths of the country's crop harvests. The irrigation network supplies water to only 13 per cent of 26 million acres under cultivation. More than 4.3 million families work Burma's farmlands. And the country's ruling military leadership, the State Law and Order Restoration Council (SLORC), feels they must reap more from the land in order to feed a population expected to reach 51 million by the year 2000.

Rice is a major concern, with warnings from the SLORC that Burma might be forced to import rice by the year 2000.

The present area under paddy fluctuates between 4 million and 4.8 million hectares, down from a peak of 7.2 million ha before the Second World War. The government says that rice should be planted on at least 6 million ha in order to prevent rice importation in the year 2000. Rice is one of Burma's

major exports — as well as its staple. In 1990, Burma planted rice on 4.9 million ha, hoping to recoup agriculture's loss to forestry as the main export. Agriculture was traditionally the top foreign exchange earner, contributing as much as 40 to 50 per cent to total exports.

But in 1989, forestry took the leading role, earning as much as US\$163 million, or 32 per cent of exports. Agriculture was down to 19 per cent, its export earnings only US\$7.5 million.

Agricultural production actually increased in 1989 by 13 per cent over the previous year, the year of pro-democracy demonstrations that ended with a military takeover. The SLORC has lifted certain agricultural controls. Farmers, for example, are no longer required to grow crops according to a central plan. Nor are they obliged to sell stipulated quotas of rice to the state.

The SLORC's Special Projects Implementation Committee, headed by the SLORC vice-chairman who is also the armed forces chief, is now placing emphasis on irrigation

projects. It has reviewed a number of these projects, including a frequently studied plan for Upper Burma.

Proposed on and off over the decade, the Mu River Valley Development Project would provide a vast drought-prone area with irrigated water. Hopefully, peasants would be enabled to grow rice and other crops. But it would take about ten years to complete the scheme.

The Mu River Valley project, if it does get off the ground, will join a score of ongoing irrigation projects supported by the International Development Agency, the Asian Development Bank and the United Nations Development Programme, among others. Burma, by 1990, had put US\$350.9 million into ongoing irrigation projects.

Between 1961-62 and 1989, 279 irrigation works costing about US\$276 million were completed. They irrigated over 250,000 ha and prevent floods in 500,000 ha.

Burma's current preoccupation with irrigation reflects the concerns of many developing countries. In recent years, the total area of irrigated fields

worldwide has actually diminished. By the mid-1980s, about a third of total crop harvests came from less than 15 per cent of the arable land which was irrigated.

In the early 1960s, irrigated farmland expanded at a rate of 1 per cent a year. Growth reached a peak of 2.3 per cent in the 1972-75 period. After that, the expansion rate began to decrease. It is now less than 1 per cent a year.

"Of major concern is the continuing decrease in the rate of expansion of irrigated land in developing countries while population growth rates are about 2 per cent a year," notes the Food and Agriculture Organisation (FAO).

The FAO has formulated the International Action Programme on Water and Sustainable Development which identifies five major areas of concern in the 1990s. These are: efficient water use; waterlogging, salinity and drainage; water quality management; small-scale water programmes; and water resources management.

A common cause of the decrease in irrigation expansion has been the high cost of construction. While costs have risen, the world price for a major cereals has fallen sharply. In the period 1965-85, the price of rice fell by about 40 per cent.

At the same time, much of the land suited for irrigation was developed for other purposes. Further expansion involved more expensive and less favourable areas to irrigate.

Today, the overall performance of irrigation is much weaker than expected. Among the many causes are inadequate operation and maintenance and inefficient management of an increasingly scarce water resource.

One major problem is the rapid rise in waterlogging, depressed crop yields and soil salinity. It is not unusual to find that 60 per cent of the water diverted or pumped for irrigation is not made available for crop use.

In modern irrigation, farmers can expect cereal yields of 1.5 kilograms per cubic metre of water. The cost of providing this water by irrigation is high.

There are about 235 million ha of irrigated farmland worldwide. If this is expanded to include actual and potential irrigated land, fallow land temporarily not irrigated and reclamation from waterlogging an salinity, the gross irrigated land area would be about 270 million ha.

Of this, about 20-30 million ha are severely affected by salinity. An additional 60-80 million ha are affected to some extent. The problems are proportionately immense.

— Depthsnews Asia

Today's Mother

by Tulip Ibrahim

The modern world with all its progress in science and arts assigns challenging roles to the mothers of today. A woman of today, as a mother, overcomes all obstacles to reach the goal of family happiness. Breaking the age-old barriers, she confronts the world outside. She is the mother and the bread earner of the family. Unique indeed is the driving force inside a mother of today!

"Mother dear, You're wonderful"

In everything you do!
The happiness of family life
Depends so much on you!

These greetings of the generations remain forceful through the ages. The difference lies in the manifold changes of the mothers' roles. The modern mother adapts her thoughts and actions, with the changing world.

A modern mother is the "home-maker". Her responsibilities increase by leaps and bounds as she participates in

income generating activities.

To a woman of today, the happiness of her family is still a major concern. Yet her activities are not bound to the home only. She steps out into a greater world to face the challenges of today's competitive life.

A mother of the modern world strives, seeks and fights for opportunities to demonstrate her full potential. She is the partner of development. In this century, she is unique in

her fight for women's lib. Women's access to all phases of development was the key to the over-all progress of mankind. For this determination the last quarter of the 20th century has produced more women engineers, doctors, members of parliament and even politicians than at any time in the past.

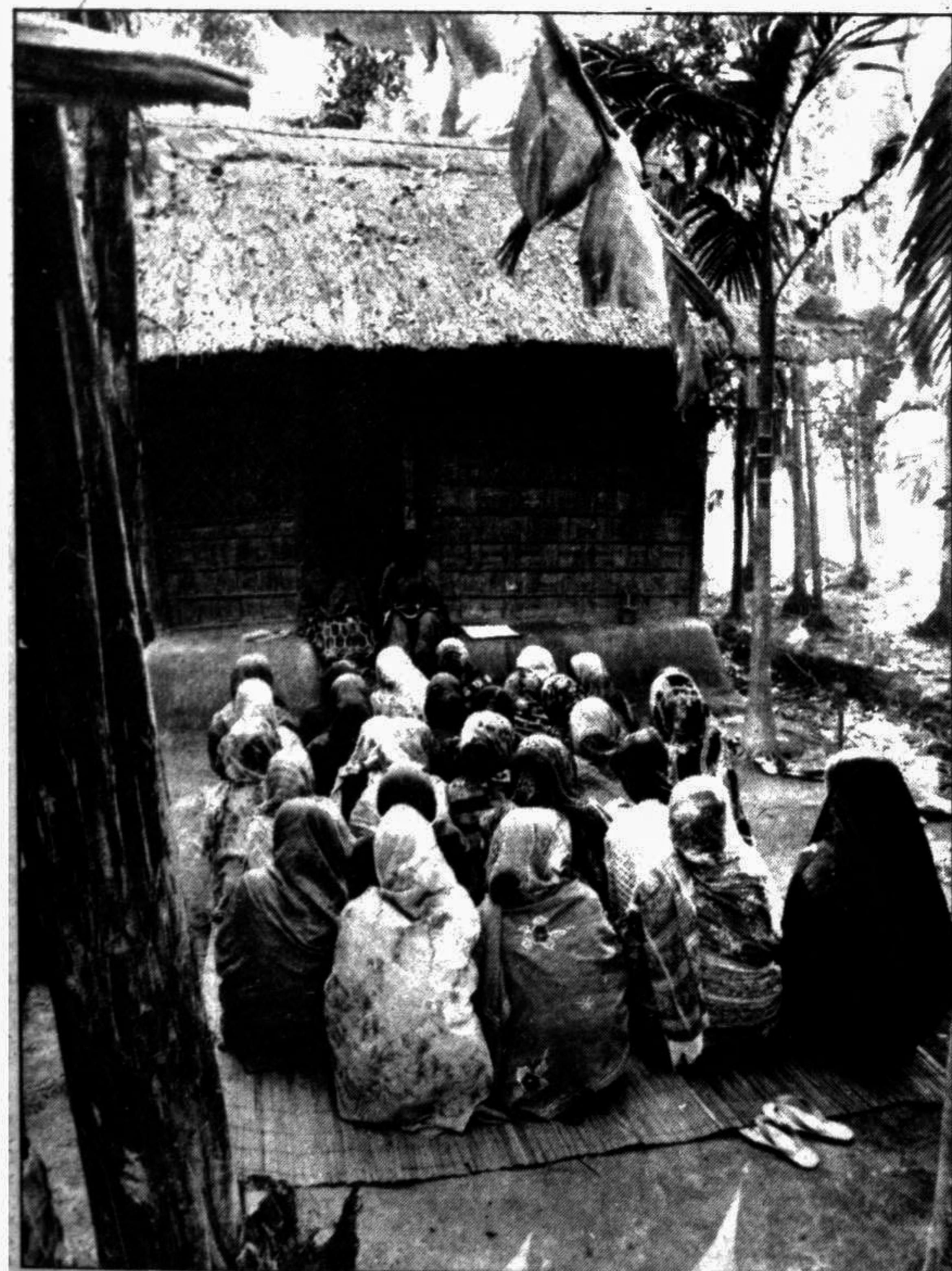
Behind the dynamic forceful personality of the modern woman, a woman still finds self-satisfaction in rearing a healthy family. Life has become complicated in many ways, but there is also great progress in learning how to bring up children. The alert mother of today takes advantage of the available knowledge and skills. In this era of science and technology, men are in a glorious experimentation of their capacities. A modern mother lives up to the time. She has an independent life, pursuing her own avocations, and developing her own special aptitudes. Thus in every way fulfilling in a more complete sphere her functions in life.

For our ancestors, mother was not only the particular person who made or marred the happiness of family life, she was also the visible expression of a cosmic mystery. To cope with this mystery of experience they often used such cosmic symbols as the "Great-Mother". It was the great strength and will of the mother which has made her the subject of worship in some religious beliefs.

Because of their double role as mother and bread earner, women face a costly split within themselves. Could they invest themselves in a successful career and still be able to nurture a family?

The challenge for the working mother lies in balancing work and family. There is a great conflict between her dual roles. The problem is larger with the working mothers of the problem ridden societies. Ignorance, superstitions and male dominance makes it difficult to balance work and family and do well at both. Problems arising from the working mother sometimes leaves her role as income earner scorned. The big mistake here lies in overlooking the skill and knowledge of the modern mother regarding her family's food, nutrition, shelter and education.

Today's mother stands at the helm of the progress of mankind. She is an essential part of the balanced development of a nation. The mother of today confronts magnificent the social and cultural obligations, acknowledges science and the new discoveries. At the same time she is, with a greater meaning, "a responsible and loving mother at home".



Women gathered for adult education at a village in Bangladesh

Kangkong — vegetable of choice in rehabilitation efforts

— Anonymous

THE loss of life and property from the cyclone and tidal bore which lashed Chittagong and Cox's Bazar on 29 April was catastrophic. Scenes of human suffering filled the front pages of newspapers and television screens around the world. Responding to immediate relief needs, medical and other humanitarian assistance poured in from various countries.

Closer to home, however, the nation's agricultural researchers, extension specialists, and USAID supported agricultural development consultants were busy designing both immediate and long-term rehabilitation plans. They faced a daunting task: how to provide comprehensive aid to farmers who lost not only standing crops, but seed stores and other vital agricultural inputs.

Soon after the disaster a reconnaissance survey of the cyclone affected area was made. Specialists from several national agricultural institutes; the Directorate of Agricultural Extension (DAE), and USAID funded projects assessed the situation and identified specific rehabilitation project activities.

An important area of focus was to initiate activities which would quickly provide farmers with vegetables tolerant to the prevailing waterlogged conditions. Ideally, vegetables chosen would be fast growing, nutritious, and require limited inputs. With this in mind, horticulture specialists from the Bangladesh Agricultural Research Institute (BARI) and the Asian Vegetable Research and Development Center (AVRDC) recommended kangkong, a fast growing, hardy, and nutritious green leafy vegetable.

Responding to relief efforts, AVRDC promptly supplied BARI with 10 kg of kangkong seed. Under the guidance of the Director of the BARI Horticulture Research Centre, the seed was divided into 900 packets. The packets, along with information on cultivation techniques, were distributed through DAE to 600 farmers in six upazilas of Chittagong, and 300 farmers in two upazilas of Cox's Bazar.

Kangkong seems to have been the right choice at the

right time. Kangkong is high yielding, can be grown year around, and is a rugged, disease tolerant plant that's easy to propagate — the perfect vegetable for rehabilitation ac-

The spread of kangkong to neighbouring fields has been remarkable, "exceeding all expectations" according to BARI scientists. During a recent visit, BARI, DAE, AVRDC, and



USAID specialists found that, in addition to the original 900 farmers, many neighbouring farmers have planted kangkong. Also kangkong has taken root in some rather non-traditional areas: along vacant land bordering railway lines and roadsides; in fact, any available space seems to be supporting lush stands of the vegetable. The demand for a fast growing vegetable plus the fact that kangkong can be con-

veniently multiplied by cuttings, made farmer-to-farmer dissemination of the plant easy. Moreover, the fact that farmers like the flavour and texture of kangkong ensured its adoption as a nutritious addition to kitchen gardens. Kangkong provides vitamins A and C as well as iron and calcium, nutritional requirements that are chronically deficient in Bangladeshi diets.

Farmers have also been quick to put kangkong to other uses. Many use the emerald green vegetable as a fodder for cattle and poultry. At a government poultry farm visited by BARI, DAE, and AVRDC specialists, labourers had planted kangkong in the space between the poultry houses. Half of the harvest was used as a feed supplement for the poultry, the rest consumed by the labourers and their families.

While kangkong can easily be grown throughout the year, it is particularly abundant during the monsoon months of June through September. Estimates indicate that during this time, when other vegetables are scarce, kangkong occupied up to 50% of the volume of vegetables available in the Chittagong markets, providing farmers with a much welcomed supplemental income. During the rainy season, farmers received upwards of US\$30 per kg for the vegetable.

Researchers also discovered that an impromptu marketing system had been devised to ensure the supply of kangkong to the market. Hiring rickshaws, many vegetable retailers arranged for the purchase and pick-up of kangkong at the farmers' fields, thus generating additional rural employment at a critical time in the cyclone's aftermath.

BARI and AVRDC scientists and the USAID Mission to Bangladesh are happy to see that kangkong has played a role in helping the cyclone-stricken farmers get their feet back on the ground. Kangkong meets the demand for a nutritional food source, and much needed supplemental income for the rural poor.

Now researchers are eyeing kangkong as an integral crop in everyday farming activities.