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PROBLEMS AND PROSPECT OF DEVELOPMENT OF
PORT FACILITIES IN BANGLADESH

By

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PROBLEMS AND PROSPECTS OF DEVELOPMENT OF
PORT FACILITIES IN BANGLADESH

A.

INTRODUCTION

1. Economic development of a country largely depends on efficient transport system. In the transport chain of maritime nation the sea port as a link point in international maritime transport system has a definite role in accelerating the pace of development of trade and commerce of the country and more conspicuously its hinterland. Bangladesh being a maritime nation her sea ports have to equip themselves to cater to the increasing needs of international maritime traffic to serve our trade interests. Our ports also can offer facilities for the transit trade of the neighbouring land-locked countries.
2. Bangladesh being a riverine delta is criss-crossed by rivers and canals; and within a stretch of her 2,40,000 sq .km area she offers approximately 5,200 km water ways navigable throughout the year which extends to 9,200 km during rainy season. This has made the inland water transport to occupy a significant position in the overall transport network of the country. Therefore, in the context

of the subject matter of discussion it is necessary to also take into account the situation obtaining in the inland ports along with the sea ports. Topography, climate and socioeconomic situation has made the IWT sector in Bangladesh, all the more important. IWT mechanized fleet consisting of about 2,700 vessels carry over 40% cargo traffic and 25% passenger traffic in the country. If country boat traffic is taken into account the share for IWT sector would nearly be 60% of the total cargo traffic.

3. EXISTING PORT FACILITIES

3. Bangladesh has two sea-ports viz Chittagong port and Chalna port. Both the ports function under two different statutes as autonomous public body.

Chittagong Port

4. Chittagong port is the principal port of Bangladesh and situated on the right bank of the river Karnaphuli at a distance of about 16 km from the shore line of the Bay of Bengal. There are 17 Jetties including 2 pontoon Jetties ranging in Jetty face length from 133 m to 183 m of which 13 are provided with shore cranes and railway tracks, 11 are provided with transit sheds. The size of the ship entering the port is restricted to a maximum draft of 9 m and length of 189 m (LOA) due to a sharp bend in the

Karnaphully river commonly known as Gupta Bend. Recently, the port Authority has undertaken construction of two multipurpose berths. Backyard facilities are there for handling containers. Cargo handling equipment and storage space are also available if not adequate to meet the needs. The port is easily accessible by land and air but involves bay crossing by inland water transport. The port is served by metre-gauge railway siding, road and waterways. Cargo - and revenue earning handling throughput of the port is shown at annexure -A & B respectively.

Chalna Port

5. Chalna port is situated at the confluence of Pussur river and Mongla Nulla about 51 km down stream from Khulna city and over 96 km from the Pilot station at Hiron point. Since 1950 it is still operating mainly as an anchorage. Construction of five Jetties (each 600 in length) with fender system etc. in Mongla has already been completed and ready for operation. The Jetties are being provided with adequate cargo handling equipment, transit sheds and ware-houses. The port is connected by Khulna-Mongla highway and inland waterways. The Jetties are now under restricted operation due to draft limitation along side absence of adequate ancillary facilities. There are 12 Admiralty type swinging mooring buoys, 49 more ships can be safely anchored within 6 km working range. Draft

limitations at the long outer bar restricts the bigger vessels to enter the port although the permissible draft at the anchorage is more than 10 m. There is also another Jetty called Roosevelt Jetty of about 500 m length in Khulna provided with handling equipment and storage areas. Here the Jetty area is served by broad-gauge railway siding connected with northern districts of Bangladesh. The Jetty is also connected by road and inland waterways. Cargo-handling and revenue earning figures of the port have been tabulated at annexure A & B respectively.

Port in IWT Sector

6. In addition to 5 river ports constructed during Pakistan days at Dhaka, Narayanganj, Chandpur, Barisal and Khulna with terminal buildings, Jetties, godowns, cargo handling equipment, etc. two other ports have been developed by BIWTA one at Patuakhali in the coastal areas and another at Baghabari near the confluence of Kartoya - Atrai river system in Rajshahi Division. Facility-wise all the 7 ports are well equipped to handle conventional cargo and passenger traffic. The productivity figures of these ports is shown in Table attached. Annexure C

C. DETERMINANTS IN THE DEVELOPMENT OF PORT FACILITIES

7. The development of port capacities is directed by the volume of cargo to be handled in the future. It is, therefore, imperative to know about the trend of development of cargo. Empirical statistics, know orders for projects, industrial development programmes, import requirements

therefore, imperative to know about the trend of development of cargo. Empirical statistics, known orders for projects, industrial development programmes, import requirements and similar other information may support the evaluation of future cargo volumes. Besides the volume, the changing trend, nature and composition of future cargo act as determinants influencing port development. The determinants-package, piece, size and weight are of substantial importance for supplying the port with the right handling equipment. Similarly, waiting time for import cargo and storage facilities for export cargo and their nature and unit load also act as determinants in the development of storage facilities like transit sheds, ware houses, open-yard, marshalling yard etc. Likewise the trend of development of vessels in length, width, draft and their types such as cellular, ro-ro, multipurpose, conventional, tanker, etc. directly influence for planning of nautical conditions, quay, fender, handling equipment, etc.

PROBLEMS AND PROSPECTS

8. In the context of what has been stated above, attempts have been made here under to identify the problems and prospects of development of various physical facilities in our ports including the inland ports.

D. PROSPECTS.

9. The total volume of cargo handled in both the sea ports in 1983-84 was 7.8 million tons. The share of Chalna port in the total trade was about 2.00 million tons. The main importable include foodgrain, fertilizer, cement, POL, coal and general cargo and the main exportable items are jute, jute goods, hides and skins, tea, newsprint, frozen fish and general cargo. There exists possibility of export of LNG and fertilizer in the near future. The traffic projection at the terminal year of the third five year plan has been estimated at 11.15 million tons and at the same time fast growth of container traffic is foreseen in the years to come.
10. Of the two sea ports the Chittagong port has got ample scope for modernisation and development. But compared to the less developed Chalna port, scope and prospects of Chittagong port are rather limited. It is estimated that the share of Chalna port in the handling of cargo would increase from 27% in 1984-85 to 30.5% as a result of increasing import through it while the share of Chittagong port would decline from 73% to 69.5%, thereby bringing in more balanced distribution of cargo between the two ports. The import-export cargo ratio at both ports will thus improve to reduce the cost of empty hauls. T

The ratio is expected to decline from 20: 1 to 13: 1 in Chittagong port.

11. The ability to transport container out of Chittagong port is very limited. Between 60% & 70% of the containerised freight is destined for the Dhaka area and majority of this is unstuffed at Chittagong for onward transportation by road, rail or inland waterways. The majority of traffic goes by road. If a consignee insists that the container be delivered to him in Dhaka, the limitations on axle load precludes the use of road transport except when the average weight is less than 5 tons. The waterway involves bay crossing & the railway's ability to carry then is limited. But the inland movement of containers along the important river routes including Dhaka & Narayanganj is easier and cheaper from Chalna port.

12. Moreover the Chalna port has an advantageous position to offer transit facilities to the neighbouring countries like India, Nepal and Bhutan. Chalna port offers at present a specially reduced transportation cost for the Nepalese transit cargo. Considering the railway distance from Chittagong to Jogbani (602 miles) and IWT/Road/Rail distance from Mongla to Jogbani (374 miles) one can save transportation cost at the rate of Tk. 40. 30 per ton.

Calcutta to Nepal

13. A recently completed study by UNCTAD/ESCAP technical team has recommended Chalna port for transit traffic of Nepal . Khulna is served by broad gauge railway connecting a number of possible border crossings with Indian railway of which Rohanpur/Singabad is the most suitable route to link the Katihar transshipment point (only 108 km (67.5 miles)) from the eastern Nepal border. Khulna can be reached by inland water from Chittagong where it takes about 3 (three) days as against 4 hours from Mongla (Chalna port). Therefore, Chalna must be sought as the main port for Nepal transit cargo through Bangladesh. Further the present congestion at Calcutta port leaves Chalna port as the only alternative transit port for Nepal. In the ESCAP study report Rohanpur/Singabad route from Khulna is the shortest and most economic transit route for Nepalese transit cargo. It has been estimated in the report that 0.1 million tons of transit cargo would be imported and exported by Nepal initially through Chalna port which can easily be handled there. The traffic is also expected to increase to 0.5 million tons annually within years of commencement of the transit traffic through Chalna. At present Nepal imports about 50,000 tons of cargo through the Chittagong port. Over and above, the port of Chalna Authority would soon be in a position to offer

sizeable storage facilities for the transit trade of the neighbouring land-locked countries.

14. Establishment of export processing zones in the close vicinity of the seaports and the pattern and growth of industries there require the port authorities to develop facilities harmonizing imports and exports in the zones.

CONTAINERIZATION AND OUR SEA PORTS

15. The technological development in shipping has brought about change in the pattern of cargo arriving at the ports such as unitized cargo (containerized cargo, pre-slung cargo, palletized cargo) cars, heavy machinery, large units of package, etc.
16. Unitization has primarily been introduced in order to cut down time in port of vessels and thus to reduce overall transport cases and at the same time labour costs. Containerization, an innovation of the early sixties, which constitutes the most widely accepted means of unitization has revolutionised the mode of cargo handling is not to be seen as an absolute alternative to unit loads. The present trend is towards building more and more

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container ships. This has warranted a reciprocal change in the long term planning of ports. To handle this container cargo the ports around the world had to build container Jetties with ancilliary facilities like marshalling yards, gantry cranes, transtainers, straddle carriers, etc. at an astronomic cost.

17. Ports and harbour are conventionally considered as mere transit base for cargo between marine and land transport. But in recent years with the rapid spread of containerization they are considered fulfilling important functions of physical distribution in the overall transport economy. Based on this concept the development of ports and harbours around the world are now being promoted.

18. While containerization has already been adopted in some trades between developed and developing countries, a large number of LDCs including Bangladesh are still confronted with the question of its introduction.

Pressure from ship owners to introduce containers in our and country is also mounting day by day/as a result, we have already started handling containers in both the ports.

19. It has often been argued that developing countries have been or are being forced into containerization and that the system does not meet the needs of developing

countries. But the fact remains that technological changes in shipping have to be followed by decisions on port investment in developing countries. If right decision is not taken the country may have to pay in terms of congestion which may ultimately turn out to be more expensive. It is true that containerization may promote marketing possibilities of non-traditional exports like refrigerated cargo. On the other hand it is most likely that if containerization is introduced, there will be certain imbalance of incoming and out-going cargoes. The resulting need to carry empty boxes effects transport costs of the outgoing ~~tag~~ of the trade relations.

20. As long as adequate facilities are not available and operational requirements can not be met the shipping lines will, in case of direct calls for ocean going vessels, prefer to use conventional and/ or semi-container tonnage. In case the ports in question are way-ports along a containerized trade routes it can be expected, however, that this type of tonnage will only be used transitionally. This means that in the long run the ports either has to adapt to the infrastructural requirements of container vessels or develop as feeder ports.

21. If the volume of cargo generated by a way-port is not sufficiently large to justify direct calls by ocean going vessels or if productivity achieved proves to be too low, lines will refrain from calling directly and rather make use of feeder systems instead. If feeder vessels with own cargo gear are used, port investment can be reduced to the supply of sufficient storage space and rolling equipment to move containers. On the other-hand total cost of transport might increase considerably, resulting in the imposition of transshipment surcharges or non-performance surcharges.

22. Containerization is characterized by mechanized handling procedures, ie. the ratio of capital/labour input is changed whereby the factor labour is substituted by the factor capital. This substitution is, however, observed for all terminal activities within door-to-door (FCL) movement of containers . Through application of door-to-door concept the full cost advantage of containerization can only be realised. If containers move on a door-to-port or port-to-port (LCL) basis operation within the container freight station (CFS) have to be included in the factor, which means non-realization of cost advantage of containerization.

23. The study made by world Bank-Consultant (M/S of Maunsell, consultant (Australia) outlined the possibility of approximately 6,00,000 tons out of the total 15 lac tons of general cargo imports, which could immediately be containerized . The similar position exists in the export trade where approximately 2,50,000 tons out of the total export cargo could also be containerized. According to the study about 3,50,000 to 4, 00,000 tons of containerisable export and 1.2 to 1.4 million tons of containerisable imports would be available by 1990 i.e. end of the Third Five Year Plan. The principal recipients of raw jute, gunnies and carpet backing cloth are Europe, USA and Japan, The USA buys most of the carpet backing cloth. Raw jute is exported in bales. Though the raw jute is easily containerisable it has not gained ground because of its low freight. Gunnies and carpet backing cloth have been shipped in containers in recent times with favourable response from the consignees. Another traditional export-tea has been expanding in quantity and value by 5% and 22% per annum respectively. Tea is exported in chests. Export of tea after domestic consumption was 30 million kilos in 1983. This item is highly suitable for containerization.
24. Other non-traditional exports of Bangladesh such as hides and skins (leather), frozen fish and shrimps

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and assorted minor products have been growing in value at 20% per annum. In 1983 the total export of hides and skins amounted to 6,156 tons. Because of having pungent smell this commodity requires special packing before containerization. Otherwise the item may not be acceptable to the shipowners. In the same year about 8,493 tons of reefer cargo like frozen fish, shrimps, frog legs were exported. Reefer container is considered to be the most suitable box for transportation of these sorts of cargo.

25. Out industrial products in the export list include electric cable, safety matches, garments and other non-traditional items are also prime cargo for containerization.

26. As to our imports, foodgrains, coal and POL are the main items which are normally handled in Bulk. On the other hand, cement and fertilizer are also two major commodities imported as break bulk. The above items are not considered suitable for transportation in containers. On the other ^{hand,} items like edible oils in drums, oil seeds in break bulk, cotton and textile goods, chemicals which are imported in substantial quantities are worth containerisation. Over and above, general cargo which are in cases, cartoons, boxes and so on can be transported conveniently in containers. It may be mentioned that this general cargo constitutes about 60% of the total containerisable import tonnage.

27. The development of the facilities for containerization at the Chittagong port will involve an expenditure of approximately Tk. 350 crore (60 crore F.E). With regard to Chalna port, feasibility survey has been taken up for development of container handling facilities.

E. PROBLEMS

28. The crucial question in the context of mechanised cargo handling in developing countries is whether it is economically and socially viable to substitute the scarce factor of capital for the amply and cheaply available factor labour. Moreover the philosophy that containerization is necessarily intermodal also true for ports in developing countries. But infrastructural deficiencies in developing countries, specially Bangladesh, such as

- insufficient road and railway network
- insufficient substructures of roads and rails to support axle load of container carrying vehicles,
- insufficient width and height of bridges,

etc. prevent the realization of the FCL concept or fully intermodal container operation. Therefore, depending on the origin/destination of the trade the door-to-port or port-to-port system we have to opt for. In this system the demand for labour is created for stuffing and stripping of containers in CFS.

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29. The benefits of containerization will continue to remain limited within shipping lines and not passed on to the consumers till such times the stuffing and stripping of containers take place in the ports of developing countries. Bangladesh is no exception to it. To overcome this problem it will require improvement of inland transport infrastructure and make available adequate inland transport facilities. Therefore, to enjoy the advantage of containerization it is very important to identify in advance the potential bottlenecks which may occur with the expansion of container traffic in our ports and examine all implications relating to and arising from the introduction of containers in the field of inland transport.

As to the haulage of containers to inland destination the situation is somewhat different compared to that of bulk, break bulk and general cargo. As has been indicated earlier the Bangladesh Railways are equipping themselves to handle containers. They have at present a limited number of flat cars for transportation of containers and arrangements are in hand to increase the number by modifying some of the existing rolling stock. Since Chittagong port is connected by metre-gauge, carriage of containers can be made possible to all the terminal

points excepting areas served only by broad gauge provided handling equipment and ancilliary facilities at the terminal points can be made available.

31. Although the Dhaka - Chittagong road link appears to offer a great potential for container traffic as there is a strong flow of containerisable cargo (both import and export) yet as indicated earlier the load bearing capacity of the road, which is about 7/8 tons per axle, would not permit movement of full weight container loads. Moreover this route is intersected by some large rivers and lot of bridges and culverts which are also not always capable of bearing full weight container loads. It may be mentioned here that there is hardly any road in Bangladesh capable of sustaining 20-25 tons load (i.e. full weight of 20' container plus trailer), Possibility for movement of containers by road, however, exists in Chittagong industrial areas (eg. EPZ) . Similarly containers on trailers can also be transported to Dhaka, Tongi industrial region provided a Container Freight Station (CFS) is established at Narayanganj and Dhaka. Narayanganj road is widened with a higher load bearing capacity. This means that containers from the seaports will be transported by IWT system to the CFS at Narayanganj and vice-versa. According to a preliminary analysis conducted under ESCAP financing, Inland Water Transport is the most feasible mode for such movement of containers.

32. A feasibility and detailed engineering study on transport of containers by inland waterways in Bangladesh has been taken up under IDA grant with the following objectives :

- a) To carry-out technical, engineering and financial studies to identify the required facilities (civil works, vessels and cargo handling equipment) and the relevant quantum of investment.
- b) To identify the institutional and procedural changes required to establish an efficient system for the movement of containers as close to the consignee's door as possible.

33. In view of the ever increasing cost of POL the waterways may profitably be utilized for transportation of containers to or nearby different inland destinations provided CFS are built in various strategic locations of the country, which too is an expensive proposition considering the resource limitation and relending terms of the government of the foreign aids.

34. As has been mentioned earlier the Chittagong port Authority is undertaking the construction of two multi-purpose berths with ancilliary facilities designed to handle general cargo and increasing levels of container traffic.

Although civil works will be completed in 1986-87, about 12,000 TEUs are already arriving in Chittagong every year and one third of which is likely to remain in Chittagong and the remaining two third would be bound for Dhaka-Narayanganj. It is, therefore, necessary to establish a transport system for carrying containers from Chittagong port to Dhaka - Narayanganj. Although IWT haulage would be economical yet it involves hazards of bay crossing.

35. The main problem of both the sea-ports are draft limitations and silting. In view of the trend towards larger ships in international shipping specially in the ocean transportation of bulk cargo, currently lighterage is resorted to meet this problem. But lighterage is time consuming and costly and not feasible at times during monsoon. It has been estimated that additional expenditure to the tune of US \$ 25 million has to be made for the purpose of lighterage annually. In order to find a permanent solution to this problem, a feasibility study was under-taken in 1978. This study recommended installation of bulk handling facilities for POL, fertilizer, foodgrains and cement at Patenga where vessels upto 50,000 DWT capacity would be able to berth. The recommendations could not be implemented earlier for lack of fund.

36. 16 km long approach channel of Chittagong port needs regular dredging to maintain a maximum permissible draft of 9 m. Trial dredging has shown that maintenance of 9 m draft is economically viable for the port authority. This requires the port Authority to procure one 2,5000 cubic metre capacity Trailing suction Hopper Dredger which again involves huge capital investment.
37. The port of Chalna Authority is also confronted with the siltation problem at the Jetty front and outer bar. For improvement of navigation channel extensive hydraulic investigations has been carried out with financial assistance from the World Bank. The recommendations are now under considerations of the government. The suggested remedial measures require huge capital investment including regular maintenance dredging of the Jetty front and 16 km long outer bar to allow standard cargo ships upto 10 m draft.

F. PORT DEVELOPMENT PROGRAMMES IN TFYP

38. Ours is a developing country where all the important agents of production are conspicuous by their absence or short supply. The scarce resources compete with each other for utilization in productive sectors. Allocation of resources are, however, determined by the overriding objectives of increasing industrial out-put, agricultural yield, gainful employment and income per capita. As a result government is constrained to allocate resources in these sector as the direct contribution of port to the national economy is considered less as opposed to investment in industrial sector.
39. Keeping in view the resource constraints and main problems of both the sea-ports, as spelt out above, like draft limitations, handling of increased volume of containerised cargo and above all optimal distribution of traffic between them, efforts have been made in the TFYP to develop port facilities for handling of the projected traffic of 11.15 million tons in the terminal year of the TFYP.

40. A sum of Tk. 301 crore has been allocated to finance the development programmes in Chittagong port, which includes:

a Completion of two multipurpose jetties:

Implementation of this project will augment facilities for handling about 90,000 TEUS increasing the handling capacity of the port by about 6.00^{lac} tons.

b Procurement of a Trailing Suction Hopper Dredger for regular dredging of the entrance channel to maintain the permissible draft.

41. Chalna port has been provided with an allocation of Tk. 74 crore. The development programme includes the following:

- a Completion of construction of back up facilities for the already constructed 5 jetties at Mongla (Chalna), and
- b Construction of two more jetties whose piling was earlier completed.

On completion of the projects the Chalna port will gain an additional handling capacity of 14.5 Lac tons. This will further augment the flow of container traffic from the existing figure of 6,000 TEUs.

42. Provision has been made for a review of the earlier feasibility study for establishment of bulk handling facilities (Deep Draft Port), leading to a complete engineering study and preparation of designs in the event the project is found viable.

43. The project for development of river ports at Narasindia, Bhairab Bazar and Ajmiriganj could not be completed during the SFYP period. As a result the left out works have been accommodated in the TFYP at a cost of Tk. 2.49 crore. A feasibility study project has also been included in the TFYP aiming at development of container handling facilities at Dhaka, Narayanganj and Khulna linking them with maritime ports of Chalna and Chittagong.

G. CONCLUSION

44. Since we have entered the age of containerisation we have to move with the time to keep pace with the modern development in ocean transport. For that, extension of container handling facilities (by establishing CFS) in inland ports have to be developed keeping in view its ultimate benefit in the overall economy of the country.
45. In developed countries a port is regarded as an industry. Its tariff structure is also designed in a manner so as to make it self-sustaining in matters of income and expenditure including development expenditure. The international development banks like World Bank (IDA) ADB, IDB, etc. come forward only when the port projects are financially viable bothering very little about their economic viability in the context of the national economy.
46. But the fact remains that in view of our resource constraints we have to look for external assistance for development of our port facilities as it involves huge capital investment including foreign exchange. This problem puts the planners in an embarrassing situation. It is, therefore, necessary for the government to allocate resources for port projects considering their economic viability, and according to their financial viability, the relending terms are set so that extra burdens are not put on the management and they are not confronted with the heavy debt service liability as happened in case of Port of Chalna Authority.

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47. There are no laws governing the principles as to whether financing of public port facilities be made solely or subsidized by the national treasury. The result has been that a few projects were financed from the national exchequer. But the overall development projects are financed by revenue surplus of port authorities. Chittagong being an old and established port is in a position to finance the development works. But Chalna Port with meagre income and also incomplete basic infrastructure is in a very difficult situation and can not even service its loan from the Government.

48. As maritime gateway, ports are the principal conduit through which a nation's life line flows. Ports which were once perceived as mere extensions of land and water transport system, are now recognised as playing a key role in stimulating the national economy and serving as a pivot for industrial and commercial activities providing employment opportunities within a broad range of industries. Port development has, therefore, to be taken out of such narrow confines and to be considered within this broad spectrum of policy matrix.

49. Viewed from this broad spectrum it would appear that the financially non-viable port projects would become highly viable from the national economic perspective.

50. The construction of the projected Rupsa Bridge will fill in the gap in the linkage of Chalna Port with its clientele, connecting Khulna by Rail and Road through the recently completed Khulna Mongla Highway... In fact, the Bridge, when completed, will help place the Chalna port on the footing of a full-fledged sea port. Therefore, the Government has to lay due priority to this project which will be only compatible with the genuine national consideration.

51. In matters of using our sea-ports for transit cargo of Nepal and Bhutan the passive attitude of India to allow the transit trade through her territory has stood in the way of its faster development. SAARC as a regional forum for co-operation may profitably be utilized to overcome this difficulty.

CARGO HANDLING POSITION OF SEA PORTS
FROM 1979-80 TO 1983-84

Annexure - 'A'

(FIG. IN METRIC TON)

Year	CHALNA PORT			CHITTAGONG PORT			GRAND TOTAL
	Export	Import	Total	Export	Import	Total	
1979-80	6,75,656	14,70,000	21,45,666	3,34,368	59,99,290	63,33,658	84,79,324
1980-81	7,41,440	8,85,596	16,27,036	5,47,556	50,14,911	55,62,467	71,39,503
1981-82	7,07,993	9,20,078	16,28,071	5,03,362	51,47,475	56,50,837	72,78,908
1982-83	8,02,527	10,98,535	19,01,062	4,54,405	49,63,132	54,17,537	73,18,599
1983-84	6,89,416	10,86,726	17,76,142	3,93,057	56,91,067	60,84,124	78,60,266

Annexure: 'B'

REVENUE INCOME AND EXPENDITURE OF THE SEA- PORTS

Year	CHITTAGONG PORT			CHALNA PORT		
	Income	Expenditure	Revenue Surplus	Income	Expenditure	Revenue Surplus
1981-82	45,90,00000	26,29,00000	19,61,000	7,99,28,571	5,04,51,333	2,94,77,238
1982-83	49,35,04,000	25,45,79,000	23,90,25,000	10,02,51,881	6,30,93,141	3,71,58,740
1983-84				10,96,49,958	9,55,92,137	1,40,57,821

TABLE SHOWING THE PRODUCTIVITY FIGURES OF THE MAIN RIVER PORTS

River Ports	1981-82			1982-83		
	Passenger No.	Cargo Tons	Revenue	Passenger No.	Cargo Tons	Revenue
Dhaka.	1,21,15,000	8,47,000	Tk. 1,00,18,000/-	1,16,55,000	11,28,000	Tk. 1,32,57,000/-
Narayanganj	43,01,000	6,41,000	" 74,28,000/-	34,38,000	9,58,000	" 78,19,000/-
Chandpur	20,40,000	1,63,000	" 22,71,000/-	17,70,000	2,33,000	" 32,34,000/-
Bari sal	24,57,000	73,000	" 40,13,000/-	22,41,000	82,000	" 50,49,000/-
Khulna	10,34,000	5,77,000	" 43,84,000/-	11,71,000	7,75,000	" 43,98,000/-
Patuakhali	7,03,000	7,000	" 4,10,000/-	9,20,000	9,000	" 8,35,000/-
Baghabari *						

- * Baghabari came into operation in 1984.
 Total income from incoming and outgoing
 Cargo traffic is approximately Tk. 9,22,000.

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Role of Crop Insurance
in Agricultural Development

by

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ROLE OF CROP INSURANCE IN
AGRICULTURAL DEVELOPMENT

By A.K. Dhar, General Manager,
Sadhara Bima Corporation.

Crop Insurance is a Welfare proposition based on the principles of Insurance. It is an important link in the chain of diverse measures to secure stabilization in the Agricultural Industry.

Undoubtedly Agriculture is a risky Enterprise. As a business Enterprise, it is susceptible to all the Social and Economic uncertainties which any other Enterprise has to encounter. Beside these, Agriculture is especially susceptible to physical uncertainties of nature because the major operation of this trade is carried on in the open field and the ^{entrepreneur} ~~enterprise~~ has to deal with what are known as "Act of God".

Risk in Agricultural Activities may be divided in three major groups depending on the reasons of uncertainty:-

- (a) NATURAL RISKS:- Natural calamity means the uncertainties of weather such as Draught, Flood, Hailstorm, Tornado or Windstorm, Excessive Rain, Excessive Cold or Frost, Natural Fire and Lightning etc. Natural risks directly causes adverse impact on Crop Yield and variability of farm income is caused due to plant disease, insects and other pests.
- One wide incidence of natural hazard may break down the entire economy of a country where Agriculture is the main basis of economic structure. Besides, ^{extensive} ~~disastrous~~ losses, almost every country faces the possibility of having frequent smaller losses of crop due to natural Risks.
- (b) SOCIAL RISKS:- Agricultural property ^{is} subject to many uncertainties arising from different social factors. The social factors include:- (i) Fire, (ii) Burglary or Theft; (iii) Strike; (iv) War, Civil Commotion; (v) Change in Social Structure; (vi) Change in Technology; (vii) Wrongfully financing policy; (viii) In-effective extension services; (ix) Quantity of management etc.

(Contd..P/2)

- (c) ECONOMIC RISKS:- Agricultural enterprise beside being subject to various natural and social hazards is also susceptible to a economic risks. These are fluctuating in the price of agricultural products which can not be anticipated always by the farmers and unexpected increase in the prices of inputs in agriculture without a corresponding rise in the prices of farm products.

It is revealed from the above that the Agricultural farming has to be carried on in the face of continual uncertainty. But great majority of the farmers in most countries are not able to stand such risks due to their poor condition which affects crop production adversely and the entire community suffers for the risks of which the farmers are direct victims.

Research and development in agricultural technics have made enormous progress to reduce these risks and to mitigate their impacts. Nevertheless the uncertainties affecting farm property and farmer is still a major factor to be reckoned with. Undoubtedly insurance is an important tool in the hands of civilized man to encounter the multiplicity of hazards to which his properties are exposed.

Insurance is a self help and mutual help measures among men who are generally susceptible to same or similar type of hazards.

All insurance, in principle, are characterized by two fundamental features e.g. combination of risk and distribution of loss among many.

Primary function of insurance is the minimization of unforeseen ~~maxim~~ risk of loss for the individual through combination of a large number of similar risks. It accumulates a common Fund from the contribution of insured for settlement of claims arising out of the risks insured. In other words this is the cost of insurance. This cost of insurance is called premium which is legally a consideration of insurance. This contribution i.e. premiums are so determined that the common fund is sufficient to meet the probable losses and the necessary expenses of administration.

(Contd...P/3)

First essential condition for insurance is that the risk must be uncertain. Uncertainty is a function of probability. Uncertainty is zero when probability is nil and uncertainty increases with the increase of probability. A hundred percent probable loss is not the proper object of cover of insurance. On the other hand a ^{risk} loss needs no insurance cover when its probability is nil.

The second important point in insurance is that the uncertainty of an individual is minimized through combination of a large number of similar risks. Through insurance even the heaviest impact of loss upon an individual can be absorbed with little difficulty by the group as a whole. This is the basic law which guide the modern insurance system.

To be insurable, a risk should satisfy the following basic conditions :

(i) A risk must be one which has some uniformity of behaviour so that it is possible to measure and predict the probability of loss in future. Such uniformity of behaviour can be established only when sufficient data is collected with regard to the risk in question.

(ii) The peril to be covered should be one which ^{should} can not be wilfully caused to occur. That is insurance is available against physical hazards and not moral hazards.

(iii) The loss following from the risks should be large enough to cause a substantial reduction in income.

(iv) Cost of insurance should be reasonable and within the means of the average insuring community.

Presently many countries are showing interest in establishing Crop Insurance Scheme. These Programme are rightly considered by them as means of increasing productivity in agriculture and as a measure of Social Welfare.

(Contd...P/4)

U.S.A. U.S.A. started underwriting the Insurance of growing crop as early as 1898 on voluntary basis. This attempt failed. The Insurance Companies almost completely withdrew themselves from this field after 1930. Crop Insurance Programme again was launched on a nation-wide basis in 1939. In spite of charging premium at an average rate of 10.2%, the loss ratio ~~during~~ during early years of their operation was above 160%. In view of this "Congress" passed a legislation in 1947 reducing the scope of this programme. The limitation of the programme combined with improvement in operation led to a better result but till the over all claims experience of the venture was not a profitable one.

Until 1954, the administrative and operative cost of the Federal Crop Insurance Programme were met from the Government Treasury. In recent years, it is reported that after introduction of "Crop Credit Insurance" the extent of subsidy has come down to 30% of the total administrative cost.

JAPAN:- Crop Insurance in Japan was initiated by Government in 1939 (on compulsory basis) following the enactment of the Agricultural Insurance Law of 1938. This law was later amended in 1947 to bring major changes in the Scheme. A major share of financial responsibility in running agricultural system in Japan is carried by Government. The Government meet deficit by means of underwriting Re-insurance responsibility in respect of each crop. Government also offer subsidy for premium adjustment. The Government subsidy is a part of the official policy to aid and support agriculture. The initial phase of their crop insurance programme has been marked by heavy losses. Indemnity paid to farmers exceeded premium contribution in almost every year.

SRI-LANKA: Sri-lanka initiated a Pilot Crop Insurance Scheme from 1958 on compulsory basis in an identified area. During the first 5 years of their operation, they experienced favourable operational result but seriously suffered from the problem of non-realisation of premium. The scheme is limping in spite of law for compulsory crop insurance or Govt. subsidy of the administrative expenses.

(Contd...P/5)

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INDIA:- In 1973, the General Insurance Corporation of India in co-operation with Gujrat Fertilizer Company, took-up all risk Crop Insurance Schemes in two Districts in Gujrat State. These Schemes were based on individual approach. These were suspended by the end of 1976 since they proved to be un-economic on the whole. The ratio of loss in relation to the premium income was 1,069%. Based on such experience, the Government came up with "Area Approach" for Crop Insurance and the new scheme is being implemented in Gujrat and West Bengal States. It is in limited scale, insuring the production loan only, but the scheme is already in various problems, such as how to convince the farmers on the benefits of their crop insurance scheme.

As Bangladesh is primarily an agricultural country and as her overall development depends on the development of agriculture, the Sadharan Bima Corporation since her birth in 1973 as a Public enterprise has been thinking of the role she can play in the upliftment of the condition of the farmers in the country. Accordingly, she took up a programme to study how the concept of crop insurance was feasible as a commercial-cum-social welfare proposition. At the outset, steps were taken to collect basic data and necessary information connected with the system from both within and outside the country. But the same difficulty as experienced in the matter of availability of basic data in the developed countries for the purpose of crop insurance has also been experienced in case of our country. While figures as to production of different crops could be procured, data~~s~~ regarding crop failure could not be collected even though efforts have been made in that direction with all the seriousness.

In the meantime, sometime in December, 1976 a "Manual on Crop Insurance for Developing Countries" published by the FAO (Food and Agricultural Organisation) of UNO was received by the Govt. of People's Republic of Bangladesh. After proper study of the recommendations made in the publication the Govt. decided to introduce crop insurance in the country on "Pilot Scheme Basis" and Sadharan Bima Corporation was entrusted with the tasks of its implementation.

(Contd..P/6)

As a first step towards introducing Crop Insurance in the country Sadharan Bima Corporation prepared a Pilot Crop Insurance Scheme and started underwriting business from T.AMAN Season in the year, 1977.

PURPOSE OF THE SCHEME

The principal objects of the scheme are:-

- i) To indemnify farmers' loss, provide a stabilizing effect on farm income and to promote Agricultural production and
- ii) To undertake research necessary for the promotion and development of such crop insurance;

AREA OF OPERATION

It was considered proper to limit operation of the scheme to representative farms in each district of the country.

With a view to achieving better result in the operation of the scheme Sadharan Bima Corporation decided to allow cover only to the Group Farmers. It was also decided to allow insurance cover to different locations throughout the whole country to have a wide spread of risks and also collect necessary information for assessing the degrees of susceptibility of different areas to different risks in respect of each crop.

UNDERWRITING PRINCIPLES OF THE SCHEME

- a) Protection is to be offered only against uncertainty of crop yields not against price fluctuations;
- b) The insurance covers serious quantity losses only and not qualitative loss;
- c) The amount of insurance protection is restricted to the investment cost of the crop upto 80% of production of each crop and remaining 20% is left un-covered as the quantity is taken to be the margin of profit.
- d) Sum Insured, premium, losses and indemnity are first determined in commodity units and then converted to cash on the basis of Govt. fixed price ruling at the time of effecting insurance.

(Contd...P/7)

e) Premium rates have been fixed at uniform levels for each type of crop throughout the country;

f) Sum Insured for each crop is determined as per previous 5 years' average per acre production or national average yield whichever is less;

g) Holding of an individual is treated as a Unit of Insurance;

h) No risk attaches under the policy unless at least 75% of the crop sown, planted grows on the insured Unit;

i) Crop Insurance has been made voluntary;

j) Presently, we offer insurance cover to Paddy, Jute, Wheat and Sugarcane against Draught, Flood, Cyclone, Hailstorm, Plant diseases and Pest attacks.

AMOUNT OF INDEMNITY:-

i) Loss is determined separately for each insurance Unit.

ii) The amount of loss with respect to any insurance unit is determined on the basis of difference of actual production and the sum insured on the following formula :-

Value of crops at different stages of production

1)	For losses occurring during the first 1/6th	period of total	period growth....20%
2)	"	2nd	" 30%
3)	"	3rd	" 50%
4)	"	4th	" 70%
5)	"	5th	" 85%
6)	"	6th	" 100%

(Contd...P/8)

To develop^{and} rates of premiumⁱⁿ to introduceⁱⁿ crop insurance in the country, Sadharan Bima Corporation surveyed a good number of Projects at different parts of the country. Survey related^{revealed} that normal loss of various crops due to different causes follows the undernoted pattern:

Crop	Flood	Draught	Cyclone, Windstorm & Hailstorm	Pest, Insects & Diseas	Misc.	Total
BORO	7%	5%	5%	5%	2%	25%
AMAN	20%	1%	4%	7%	2%	34%
AUSH	20%	5%	2%	1%	2%	30%
WHEAT	-	8%	2%	5%	2%	17%
JUTE	2%	4%	4%	5%	2%	17%
SUGARCANE	18%	-	-	11%	-	29%

However, these statistical data were not sufficient for developing separate rates of premium for different crops of different agro-climatically homogeneous geographic areas of the country. Nevertheless, the survey lead to a data basis for initial planning for crop insurance programme. Accordingly, to make a start of the scheme the under-mentioned rates of premium and quantum of excess for different insurable crops were developed.

<u>NAME OF THE CROPS</u>	<u>RATE OF PREMIUM</u>	<u>EXCESS</u> (un-indemnifiable part of loss)
BORO	6%	25%
AMAN	15%	34%
AUSH	9%	30%
JUTE	3%	17%
SUGARCANE	6%	25%
WHEAT	3%	17%

Subsequently, considering the inability of the poor farmers and also considering that the high rates of premium might affect cultivation, rates of premium for different crops were reduced to 3% to 5% and un-indemnifiable amount were fixed at 10% of sum insured.

(Contd...P/9)

ASSESSMENT OF LOSS AND SETTLEMENT OF CLAIM

In case of loss or apprehension of loss of crop the insured farmers are to report to nearest office of Sadharan Bima Corporation and submit their claim in prescribed form.

On receipt of claim intimation, Head Office arranges inspection of the affected farms. In most of the cases Head Office representatives are sent to assess crop damage. AS a standing rule, survey of the affected field is conducted jointly by the Sadharan Bima Corporation, concerned local official of Agriculture Department in presence of insured or his representative and official of other concerned departments or organisation.

All claims are processed and settled by the Head Office directly. The claim cheque is issued in the joint names of loan giving Agency and insured for group farm/societies alongwith a list of the claim payees showing the amount of claim payable to each insured member.

ADMINISTRATION OF THE SCHEME

Presently the scheme is operated on a Pilot Basis by a separate department at the Head Office of Sadharan Bima Corporation. All motivation works and crop damage survey at the time of loss are being conducted from Head Office. Head Office officials visit B.R.D.B.(IRDP) Societies and motivate the farmers for taking Crop Insurance Policy in every crop season. They also attend the training classes conducted by the TCCA's and narrate the benefits of Crop Insurance to the Samity Managers present.

The concerned Zonal/Regional/Branch/Sub-Branch and Unit Offices of Sadharan Bima Corporation procure business and collect premium conduct periodical inspection of the insured farms under their respective jurisdiction.

(Contd...P/10)

STATEMENT OF LOSS AND SETTLEMENT OF CLAIM

In case of loss or apprehension of loss of crop the insured farmers are to report to nearest office of Baharan Rusa Corporation and submit their claim in prescribed form.

The receipt of Baharan Rusa Corporation, Head Office, is required for the settlement of the claim. In case of the loss of crop, the insured farmers are to report to nearest office of Baharan Rusa Corporation and submit their claim in prescribed form. The receipt of Baharan Rusa Corporation, Head Office, is required for the settlement of the claim. In case of the loss of crop, the insured farmers are to report to nearest office of Baharan Rusa Corporation and submit their claim in prescribed form.

All claims are processed and settled by the Head Office. The claim cheque is issued in the name of the insured farmer. The claim cheque is issued in the name of the insured farmer. The claim cheque is issued in the name of the insured farmer.

:- 10 ;\$

30th Sept 1985

CROP INSURANCE PERFORMANCE FROM INCEPTION TO 30TH DEC 85.

Year	Acreage of Land	Sum Insured covered	Premium Earned	Claim	Ratio of claim with		Re-marks
					Premium	Sum Insured	
1977	72.31	63,125.00	3,156.25	4,929.00	156.17	7.81	
1978	1475.10	38,37,306.00	1,28,073.90	3,42,006.76	267.04	8.91	
1979	1957.66	47,18,452.50	1,85,275.32	6,94,802.63	375.01	14.73	
1980	3177.29	75,01,896.91	2,51,674.17	9,40,285.42	373.61	12.53	
1981	1906.27	48,56,054.55	1,79,851.07	7,90,900.69	439.75	16.29	
1982	1217.76	34,92,106.04	1,26,483.27	4,24,576.72	335.67	12.16	
1983	676.70	21,84,806.60	75,281.48	3,16,805.76	420.82	14.50	
1984	652.16	23,83,883.92	91,093.63	3,87,193.08	425.04	16.24	
1985	287.67	13,20,670.50	39,622.22	3,14,944.30	542.48	23.84	

PROBLEMS ENCOUNTERED

Since we introduced the scheme Sadharan Bima Corporation encountered number of problems and difficulties the most important of them being :

- 1) As crop insurance is voluntary and limited to selected areas only, the farm owners prefer Insurance Cover for the inferior land and their farm and keep the hazard-free area under cultivation leading to high rate of claim in every season.
- 2) As the farmers of Bangladesh are mostly illiterate and are not aware of the concept of insurance, they take it as a source of immediate gain and show a tendency of lodging claim against almost all the insured land. The group leaders of the farmers can contribute much to avoid such type of moral hazard. But contrary to this, they often encourage fraudulent claims in different ways in order to gain cheap popularity.
- 3) The climatic condition of this country is such that the perils covered under crop insurance are likely to occur in almost all areas every season. Sometimes, these perils cause damage to the crop and sometimes not. But the clever farmers take full advantage of these natural phenomena.
- 4) Though the Sadharan Bima Corporation is charging ~~of~~ premium at a rate much lower to loss cost yet the premium load appears to be high in relation to the production cost affecting the profit margin of the farmers of our country. This leads to tendency of lodging claim against the insured lands on flimsy grounds also.
- 5) Due to certain lacking in existing land recording system difficulty has been experienced by Sadharan Bima Corporation in the way of identifying damage land for the purpose of giving compensation. Consequently problems are encountered in extending the scope of operation of the scheme for farmers other than group farms and farm lands under intensive supervision.
- 6) At the time of accepting crop insurance Sadharan Bima Corporation experienced bad underwriting of risk for not having accurate per acre yield. Similarly due to absence of adequate information as to nature and cause of crop damage in clear terms they have been handicapped to arrive at correct assessment of loss.

(Contd..P/12)

7) Due to different methods of cultivation adopted by the farmers, absence of uniform and adequate irrigation system, and variation in input application, there is variation in both quantity of crop yield and ~~crop~~ damage.

8) The ^{purpose} ~~purpose~~ of crop insurance is not only to indemnify the farmer at the time of loss or damage to their property by insured peril but also to see that steps are taken by the insured in time so as to prevent occurrence of the insured peril. This, in turn, requires that there is timely supply and application of necessary inputs to the crops facing probable loss/damage by insured peril. But, in fact, the farmers in our country do not get supply of power-pumps, pesticides, fertilizer and other such materials from the relevant authorities in time and in adequate quantity.

A National Seminar on Crop Insurance was held on 4th and 5th May, 1981. All the participants agreed on the points that for the overall ~~upliftment~~ economic development of the country in general and for the economic upliftment of the farmers in particular, Crop Insurance is the most effective weapon. They opined that the Crop Insurance Scheme should be continued in an expanded form.

The Seminar made the following recommendations:-

1. That the scope of Crop Insurance should be made wider and extended to the larger number of farmers, particularly the small and marginal farmers.

2. That for effective ~~for~~ expansion of the scheme throughout the whole country, Govt. particularly the Ministry of Agriculture should come forward in undertaking the massive crop insurance programme jointly ~~in~~ with Sadharan Bima Corporation. That if the crop insurance scheme is to be made viable, a reasonable premium rate should be developed on the experience of actual operation of the scheme and consequently, Govt. should come forward to subsidize a portion of the premium. For this purpose an Insurance Guarantee Fund may be created.

(Contd...P/13)

3. That vigorous campaign should be made by Sadharan Bima Corporation in collaboration with all concerned agencies, viz. Agriculture Extension Department, Agriculture Information Service, B.R.D.B. etc.

4. That Bureau of Statistics should provide to Sadharan Bima Corporation area-wise per acre actual yield statistics for the last 5(Five) years throughout the country for Paddy, Wheat, Sugarcane and Jute.

5. Group underwriting on both co-operative and individual approach basis should be encouraged. However, care should be taken to ensure that group interest does not become subservient to personal interest.

6. An effective forum should be developed whereby a close co-operation can be evolved amongst the involved agencies both at field and planning level.

7. The question of setting up a separate crop insurance agency was discussed and at this stage it was felt premature to establish such a separate agency.

8. The feasibility of administering crop insurance at the community level by the commodities themselves should be explored by selecting a few ~~communities~~ communities where the programme can be tested with full back-up support from the Sadharan Bima Corporation, BIA, BRDB, Ministry of Agriculture, Ministry of Co-operatives and Rural Development and other concerned agencies. The possibility of employing Educated Rural Youths in the community level programme may also be simultaneously examined. Community level involvement is likely to reduce moral hazards and at the same time lead to expansion of the programme.

9. That steps should be taken to indemnify reasons of an elimination-minimisation of moral hazards. This can be done if due care is taken in underwriting the risks particularly at the time of selection of the risks and fixing up the sum insureds. Introduction of a system of periodical inspection of the insured crop may also do a lot in this regard. For this purpose, the services of extension workers in all concerned organisations may be utilised.

10. That attempts should be made for motivating the insured farmers as to the actual purpose of crop insurance so that they may do away with the tendency for lodging the ^{due} claims.

11. That Bureau of Statistics may compile area-wise Crop Damage Statistics for every crop season and make the same available to Sadharan Bima Corporation as quickly as possible. Sadharan Bima Corporation, on its part, may continue assessing losses on crop cutting basis as far as practicable in respect of each insurance unit. If these two assessments differ substantially, third assessment may be made by an independent person/body before the claim is paid.

12. That decentralisation of SBC's field activities with provision for regular supervision and monitoring should be developed.

13. That timely credit supply by the concerned agencies should be ensured.

14. That input supply in time and in adequate quantity should be ensured by the concerned agencies.

15. That insured farmer should be induced to keep and maintain appropriate records as to crop-yield/crop-damage/lost. Feasibility for giving ~~xxxx~~ bonus for this may be examined.

16. That underwriting and claim settlement procedure particularly the table of indemnity and the administration of the scheme should be made more simplified, objective and rational.

17. That crop insurance should be linked with agricultural credit wherever these are provided for by various credit giving agencies.

18. That as to re-insurance problems, Reserve Fund should be established within the country and Regional Co-operation be sought with the developing countries. The possibility of creating a Regional Compensation Fund by the developing countries engaged in crop insurance business should be explored.

19. That steps should be taken for training of the personnels involved in crop insurance programme, within the country and abroad. For this purpose, Bangladesh Insurance Academy may be given the responsibility by strengthening its existing facilities. In this connection, APRACA and other International Agencies viz. UNDP, UNCTAD etc. may be approached for financial and other technical assistance.

(Contd...P/15)

After this ' National Seminar', the Planning Commission, in pursuance of the decision of the N.E.C. prepared a paper evaluating the on-going Crop Insurance Scheme.

In this paper Dr. Shahadat Ullah, Member Planning Commission opined that " Positive Measures are necessary to induce farmers to purchase Crop Insurance in large number and for larger areas".

HIS RECOMMENDATIONS ARE AS UNDER:-

1. The pilot project should continue with the thrust on expansion of area so as to cover at least 50,000 acres upon which a full evaluation should be undertaken.
2. KSS, Bureau of Statistics and Extension Agents of the Directorate of Agriculture may be involved in policy underwriting and assessment of damage of loss.
3. The sum insured may be based on 50% of the value of crop at the procurement price instead of 80% now at present.
4. The current method of premium fixation should be replaced by a uniform premium rate at a level that will provide incentive to farmers to take up policies in larger number.
5. The question of holding-wise policy vis-a-vis crop specific policy may be examined alongwith the feasibility of multi-year policies.
6. In case of share cropping policy be issued in the name of joint holder of bargadar and land-lord.
7. Publicity programme to educate farmers about the benefit of crop insurance should be launched by the Sadharan Bima Corporation in co-operation with the Gram Sarkers.
8. Reserve from the general insurance should be creatively used for strengthening field staff in support of programme expansion rather than as a cushion for loss.

Giving the due consideration to the recommendation of the Planning Commission Sadharan Bima Corporation has recently revised their on-going "Pilot Crop Insurance Scheme" for immediate implementation.

(Contd...P/16)

FAO has long recognised the key role Crop Insurance can play in productive agriculture. The genesis of Crop Insurance Schemes in the different developing countries of Asia can be traced to the persistent efforts of F.A.O. They organised the first FAO working party on Crop and Live-Stock Insurance in Asian Region 29 years ago (1956). Since then FAO extended substantial support to many countries for their efforts in this field.

In his key-note addressed to the participants of the Asian Crop Insurance Seminar held on 16-20 Sept'80 at Tokyo, Japan Mr. D.L. Umali the then FAO Regional Representative for Asia and the Pacific evaluated the role of Crop Insurance in Agricultural development as under:

It will perhaps be enough to note two points:

FIRST, in Japan, the Agricultural Loss Compensation Act of 1947 made a meaningful impact on agricultural and rural development as (a) it protected farmers from natural calamities; (b) made more effective the land reform programme, specially for the former tenants who lost the support of land-lords; and (c) secured stable food supply by providing production base for small farmers.

Since its initial implementation 37 years ago, a number of changes have been incorporated into this Act. But the essential features of the Japanese scheme have stood the test of time and remain the same- a point that should not be lost on countries seeking to distill development experience.

These are (a) the programme is compulsory; (b) government support is needed to cover all operating expenses and sometimes to cover part of premiums; and (c) the government provides the re-insurance to support the scheme.

SECOND, in contrast, it would appear that most other countries in Asia have relied-either through lack of resources or deliberate policy choice-on the percolation effect of general policies of economic growth. Crop insurance, has, therefore, lower-drawer priority where the approach is "trickle down" from the top.

(Contd...P/17)

Mr. Umali concluded his address with the following comments:-

" The primary purpose of a Socially Oriented Crop Insurance Scheme/Programme in a developing country is to start with the survival and liberation of the weakest. It is also the way of self-sustaining growth. There is no other way."

The ninth Session of the UNCTAD Committee on invisibles attributed crop insurance as a means of promoting selected agricultural production and made following comments:-

It is strongly felt that, in a developing country, crop insurance might achieve increased specialized agricultural production mainly through:

- (i) higher specialization in single cash crops;
- (ii) more intensive investments in rural development and better credit facilities;
- (iii) higher land productivity through the use of more advanced techniques and agricultural practices;

As regards the farming condition prevailing in Bangladesh, SIDA publication correctly observes that the topographical and hydrological conditions in Bangladesh combine to produce a highly risky environment. Crops are often destroyed by abnormal floods and a large part of the rice acreage must be therefore planted with relatively low yielding, but flood tolerant rice. The application of inferior seeds and expensive fertilizers and pesticides is under these conditions, a hazardous experiment which the majority of farmers do not dare to undertake as long as they are poor, in debt and in constant danger of losing their land in case of crop failure (Devolder and Asplund, 1979).

a. It is an accepted fact that the farmers in Bangladesh conduct their farming trade in a highly risky environment. Unless this risk in their trade is minimized we can not expect them to apply expensive modern technology and increase agricultural production. Insurance of growing crop is the most efficient device to minimize the adverse consequence of agricultural risks.

(Contd...P/18)

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b. Bangladesh is a country where almost all farmers are at subsistence or below subsistence level. They need capital not only for applying modern technology but also for traditional operation and also for maintenance of their families during pre-harvesting period. No doubt they borrow money from institutional sources as well as from village Mahajans but do not dare to involve more amount of money for improved cultivation because of uncertainty in production, if they were assured of financial re-imbursement in case of crop failure due to insured perils they will be encouraged to invest more amount of capital for improved cultivation even from their borrowings.

c. Crop Insurance can improve the position of farmers in relation to agricultural credit. Frequent crop failure will not have much effect in repayment of credit.

d. Farmers will have greater confidence in venturing upon the adoption of new and improved farming practices resulting in larger yield.

e. Crop Insurance may promote attitude amongst the farmers favourable to co-operative efforts which may contribute wide scale benefit to the agricultural industry in particular and to the nation as a whole.

The Director General of FAO told the special Session of the U.S. General Assembly a few years back " It is clear, with every passing year that for most ^{countries} ~~countries~~, a satisfactory agricultural performance is a precondition of development in wider sense. Surely no nation can be truly considered independent if it is unable to produce or buy the food supplies needed by its people. "

In conclusion this can safely be recommended that because of obvious potential benefits of a properly managed crop insurance programme it should be an integral part of agricultural and rural development policy of a country like ours.

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THE CRISIS OF TECHNICAL EDUCATION IN BANGLADESH
A CASE STUDY OF ENGINEERING COLLEGES

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THE CRISIS OF TECHNICAL EDUCATION IN BANGLADESH:
A CASE STUDY OF ENGINEERING COLLEGES.

INTRODUCTION

1.1. All concerned with the engineering education of the country know that the students admitted in the 4-year B.Sc. Engineering degree programmes cannot have their education completed in four calendar years and at times it takes more than six years for a student to complete his course in a regular manner. The students admitted in the BUET and The Chittagong Engineering College immediately after the H.S.C. examination results of 1984 have not yet been called in to attend classes. These youth have by now lost more than one and a half years of their valuable life time for no fault of their own. In our country some fifteen thousand students pass the H.S.C. examinations in science group in 1st and 2nd divisions each year. The aspiring good 2nd divisioners do not qualify to sit for admission test in BUET and their only hope of becoming engineers is the Engineering Colleges of the country at Chittagong, Khulna and Rajshahi. But this year on the 29th of September, 1985, the teachers' representatives of these colleges at a press conference in Dhaka declared that they would not be admitting new students in the session 1985-86 which is against the Govt. policy. It is well known that there is tremendous amount of competition for admission in the Engineering Colleges, some 16 candidates competing for each seat and the amount of commotion and frustration generated by this untoward decision of the Engineering College teachers can be well imagined.

1.2. All this indicates that crisis prevails in the engineering education of the country. In my this paper I have tried to analyse the state of affairs of the Engineering Colleges that gave rise to such a situation. To quantify the dimensions of the issue, I collected materials from all the Engineering Colleges on the teachers, the students, the academic programmes and the financial outlay. I have also interviewed some of the teachers in each of these Colleges where my selection of personnel was biased towards the knowledgeable quarters. I have analysed the gathered information in my own way. With them I have added my own knowledge from my long association of nineteen years with

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these Engineering Colleges subsequent to some six years of rigorous field service. I have drawn conclusions and made recommendations as well. All views expressed herein are my own in my personal capacity and do not reflect any opinion of the Directorate of Technical Education or the Ministry of Education, Govt. of Bangladesh.

- 1.3. The information gathered on mobility of teachers came to many uses in my paper. The Colleges supplied the dates of joining and leaving a post in cases of fresh appointment, transfer, promotion, training and resignation or just leaving without notice. For each and every teacher these offices had files on. My personal knowledge tells that nearly five percent of the files are not available with the Colleges. In some cases these files were called in by the Ministry of Education to process termination procedures of teachers absconding for a long period and in others the concerned teacher might have removed it on purpose without turning in afterwards. These informations were clustered on year-wise basis and have been presented in Table-1, Page. 22 to... 26. In this Table the I-Column added for a certain interval of time gives the total number of teachers joined during that interval in the particular category of post and the E-Column gives the figure for those left the post, while their difference shows the number of teachers that were constantly available for that interval without regard to the number existing from before. An R-Column figure is the difference of corresponding year's I-sum and the E-sum added to (subtracted from, if E-sum is greater) the previous year's R-Column figure. If an R-Column were drawn out for each category of posts, then an R-column figure would give the number of teachers of that category available throughout that year. The number of teachers shown in Table-2, page 27 to 30, working in a particular year were obtained in this manner. The limitation of the R-Column depends upon the size of the cluster-period. For example, at a particular year say, there was only one teacher from previous year who left in the month of March and subsequently another teacher joined in the month of August. The R-column figure would indicate that there was one teacher available during the whole year. If the cluster-period were reduced, the picture would have been more realistic here. But presently one-year cluster should serve well.

BACKGROUND INFORMATION

- 2.1. The first Engineering College of the country was established in 1947 by converting the Ahsanullah School of Engineering into the Ahsanullah College of Engineering which name was soon changed to the Ahsanullah Engineering College and Govt. gave its seal of approval to it in 1948. This College flourished through an Inter-College Programme established in 1954 with the Texas A & M College of the U.S.A. The Semester system was introduced in it with the group of students admitted in 1955 together with the introduction of American text books in profusion taught by a host of America-trained teachers. The terminologies changed; "Undergraduate Study" now meant the study after completion of which one was awarded the Graduation degree, post-graduate education become "graduate study" and the doctoral study came to be known as "post-graduate study". In 1962 this College was converted into the East Pakistan University of Engineering and Technology which appropriately got the name Bangladesh University of Engineering and Technology, BUET for short, in December, 1971.
- 2.2. As the pace of development quickened, the Govt. from its own resources established Engineering Colleges at Rajshahi, Chittagong and Khulna and these started functioning from 1964, 1968 and 1972 respectively with an initial intake of 120 students in each, later raising to 180 students. The envisaged intake in 1985 was 240. But as number of teachers fixed by the Services Reorganisation Committee in its recommendation will in that event raise the present planned 1:15 teacher-student ratio of to 1:20 considering Engineering teachers only, or from present 1:12 to 1:16 considering all types of teachers, so it will take quite some time before this can be achieved. The infrastructure like hostels, class rooms, laboratory equipment etc. also could not be developed during the S F Y P for the requirement of 240 intake due to non-availability of fund and price hike of materials. The shops and Laboratories of some of these Colleges are deficient in many respects. Foreign assistance to the tune of US \$ 490,000 under UNESCO/NORAD grant helped the Chittagong and the

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Khulna Engineering Colleges in equipping the shops, laboratories and libraries. This was a two year programme starting from April, 1980 to March, 1982. The US \$46.848 million IDA/UNDP/ODA Assistance programme launched in January, 1985 as Technical Education Project-A for the strengthening of 22 educational institutions under the Directorate of Technical Education includes the four Engineering Colleges also. So far my knowledge goes, this project is yet to have a smooth sailing for lack of drive.

2.3. The Engineering Colleges of the country have too many care-takers. The administration is looked after through the Principal of the respective College by the Directorate of Technical Education on behalf of the Ministry of Education. These Colleges have no governing bodies and no Vice-Principals. The Directorate, the Public Service Commission, The Education Ministry and the Establishment Ministry at times jointly in various combinations and at times independently look after the recruitment of teachers. The Education Ministry allocates funds, the Directorate distributes it and the Accountant General's Office regulates expenditure sometimes through arbitrary local rules of its own. The Zonal Universities are the guardians of academic standards. The Public Works Department looks after the facilities. The Principal of the College is the sole custodian of public property to the tune of nearly Tk. 100 crore in present day value. He needs to call for spot quotation for any purchase exceeding Tk.150/- (some times), general quotation for purchase value exceeding Tk.2500/-. , paper advertisement for value exceeding Tk.5000/- and permission from the Ministry for value exceeding Tk.10,000/-, all these for expenditure from "Other Contingency" funds by which the college meets bills for fuel, stationery, athletic club and common room, prizes, liveries, study tour of students, repair of vehicles, small maintenance works etc.. The powers of the Principal for book binding is Tk.200/-. No regular fund is provided for repair and maintenance of equipment and no journals for College library are subscribed due to non-allocation of foreign exchange. Current books are hard to find in the College libraries as a maximum yearly allocation of Tk.20,000/-

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in local currency does not attract any supplier to import titles of choice from heterogeneous publishers because of poor size of the fund.

2.4 The qualification for the recruitment of engineering teachers is a standard one. The educational qualifications are:-

a) for Lectures : Ist class B.Sc. Engineering Degree or a Higher degree or 2nd class B.Sc. Engineering degree with one years' practical experience.

b) for Asstt. Professors: Ist class B.Sc. Engineering degree or a Higher degree.

c) for higher posts : M.Sc. Engineering Degree or its equivalent or Ph.D. in Engineering.

d) All recruitments are direct and normally through P.S.C. But there is no teacher training programme till to date. The IDA/UNDP/ODA Aid programme will initiate a staff development scheme in the near future in co-operation with the BUET.

2.5. The tradition of Engineering education set in the country by the Ahsanullah Engineering College and the BUET under the aegis of Late Dr. M. A. Rashid, the 3rd Principal of the College and Ist Vice-chancellor of the University has great influence in the academic matters of these colleges. Uptill now the Engineering Colleges of the country take pride in an admission system above blemish within the publicly announced frame works. There is no, and there never was, perceptible degree of indulgence in rampant copying in the examinations conducted by these College; the adventurous usually gets caught and expelled for a minimum of one year plus cancellation of his current candidature.

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2.6. My last comment in this respect is that the engineering education and educational institutions should not be put on the same platform with the higher levels of general education and such educational institutes. The reason lies in the definition of the term "Engineering" which has been defined as " the professional art of applying science to the optimum conversion of the resources of nature to benefit man." The engineering education must have to be capable of teaching its students (a) all the science needed, (b) the art of application of this science and (c) the technique of judging optimality, all with a view to benefit man. A failure in any of these aspects in the Engineering education will not benefit man. In engineering the focus is not all on "Knowledge for the sake of knowledge"; there is something more, the application of a part of acquired knowledge to benefit man..

CAUSES OF CRISIS IN ENGINEERING COLLEGES

3.1 The main causes of crisis in the Engineering Colleges are:

- a) perennial acute shortage of engineering teachers
- b) faulty recruitment policy of engineering teachers,
- c) lack of mechanism to hold engineering teachers in their jobs,
- d) failure of administration in providing supporting technician level staff,
- e) indulgence given to the students by the higher authority and consequent demoralisation of teachers,
- f) lack of adequate interest among the existing teachers to exert themselves in achieving the task of their profession,
- g) inadequate authority in the hands of the local administration, and
- h) lack of support to local administration by the authority.

3.2 Shortage of Teachers:

In any discussion on the Engineering Colleges the point that always comes up first is the acute shortage of teachers. In the past there were no concerted effort to portray this acuteness with facts and figures. A statistics was prepared at the Chittagong Engineering College in 1981 and it had many flaws. With the information gathered this time, a realistic picture is available for all the Colleges for any period uptill now. The College-wise teacher strength at any year can be seen in Table-2 page 27 to 30. It can be seen that the teacher position has slightly improved from 1982. The reason is that a good number of promotion cases were finalised during 1982 and 1983 as can be seen in Table-3. At present Chittagong and Khulna have less than 50% of engineering teachers required and Rajshahi has 62.5% whereas Dhaka has nearly 80%. The last two figures are also not something to be admired at. A scrutiny of the table will show that in these two last named colleges the no. of lecturers are the predominant ones. Lecturers are the most volatile group of teachers. They have now gathered in the harbour due to embargo of recruitment outside. It can be emphatically said from past experience and also from the data presented in Table-1 that the lecturers move like schools of fish. May be in the next year almost all of them will leave Colleges if the outside employment opportunities brighten up.

3.3 Faulty Recruitment Policy:

a) The qualification requirement of teachers has been mentioned earlier. The Lecturers who join the colleges are always in fear of their career development. The higher posts require higher educational qualification. But uptill this time there is no regular inservice scheme for training of teachers. Upto 1982 the Technical Teachers' Training College at Tejgaon Dhaka had 34 posts of Teacher Trainee Instructors. The Directorate of Technical Education was repeatedly urged upon to advertise and fill these posts and send the recruits to BUET for graduate study programme but all the pleadings went in vain. Now the Services Reorganisation Committee has abolished these posts. In 1964-1966 or some seven or eight Teacher Trainee Instructors underwent such training in BUET. Now there are atleast five of them in higher posts in the Engineering Colleges. Many Lecturers and Assistant Professors left colleges because they were pessimistic about their future here.

b) Promotion of qualified teachers to higher posts is another deterrent instead of being incentive. Table-3 shows that there were very few promotion cases except in 1977, 1983 and 1984. On many an occasion a lecturer with six years or more of teaching experience, even with a Ph.D in Engineering did not get the chance for promotion and left the college. One such instance is sufficient to trigger panic in others. The posts were not advertised. On the other hand, there were times when little response was obtained through advertisements as there were no qualified junior teachers for reasons mentioned in 3.3.(a) above and for lack of confidence on the administration by the practising engineers which also was generated from the same source.

3.4 Lack of Mechanism to hold Engineering Teachers in their jobs:

a) The higher authority has a tendency to equate the Engineering Colleges with other general colleges under them. It does not occur to them that the type of men they need can easily earn many times the salary they are offered. The salary has the aspect of status also. This aspect is also

not reflected in the pay structure of Engineering College teachers. It is not something they want, but it is something they are deprived of with the introduction of each new pay scale. The National Pay Scale took away the technical pay and the teaching allowance in addition to lowering down the status-wise scale of pay of Assistant Professors and above upto the level of Principal. The New National Pay Scale went a step further. It allowed extra increment to practicing engineers and university engineering teachers and lowered down the pay scale of Associate Professors and Professor-Principals below that of Superintending Engineers and Chief Engineers, whereas these scales were higher before the NNPS. The teachers of Engineering Colleges formed an Association of their own, made representation and ultimately took to the street for the first time in 1980 culminating in on masse resignation. The position was restored in 1982 though the Grade-I pay to Professor-Principals was subjected to harsh conditions and till to-date none was given this scale. The attitude is as if "some are more equal than others". The Modified National Pay Scale again hit hard; it stopped the enhanced initial pay to lecturers, barricaded open passage to Grade-II pay and almost denied Grade-I and Grade-II pay to Professor-Principals.

- b) The Directorate of Technical Education, rather the Ministry of Education on the one hand did not have any specific programme for staff development and on other the Directorate of Technical Education vented out that no Engineering College teacher would be sent abroad on scholarship as most of them did not turn back. My findings are different. From the seventh column with left margin and the last column of Table-4 page 32 it can be seen that about 60% (22 out of 37) of the trainees sent after Liberation (and upto 1983) have turned back. Those who were sent in 1984 and 1985 are yet to complete their training. Such trainees face problem regarding their order of deputation as almost all of them leave the country without it causing complications regarding their pay, etc. during the training period. This is also a cause of frustration. The pronouncement of the Directorate mentioned in this paragraph has been highly opposed by the Principals, but it had its effect on the recruitment policy.

- c) A small point need be mentioned here. With a view to stop desertion of College without notice, the Directorate of Technical Education sent instructions to the Principals of Colleges to seize the provisional Pass Certificates of newly recruited teachers so that they would be in the college for atleast the adhoc period of appointment. The Principals more or less ignored this instruction, but frustration among teachers swelled by it and the damage was done.
- d) The contributions of the Accountant General's Office are no less in driving new recruits away from these Colleges. The first pay cheque is always a troubled one at any place of posting, be it fresh or transfer or promotion, but it is more felling upon the new recruits. Many of these are heard to declare openly that they are planning to leave at the first opportunity because a teacher giving bribe is very derogatory and cuts at the root of moral fibre. The other point they say that if they have to give bribe then why not join some place where others might bribe them. An Assistant Professor with a Ph.D. was harrassed for more than two years regarding his advanced increment for higher qualification.
- e) There is no official sanction for Engineering College teachers to take up consultancy jobs. I do not consider such jobs harmful if proper control is ensured. Many Engg. teachers are heard to do a second job in assumed name but the authority can hardly do anything about it as situation is very delicate due to the pressure for running the Colleges.

3.5 Failure of Administration in providing supporting staff:

Each of the Engineering Colleges has sanctions for the following supporting staff:

a) Foremen		4 Nos.	Class-I
b) Assistant Foremen		12 Nos.	Class-III
c) Demonstrators		6 Nos.	
d) Laboratory Assistant		2 Nos.	
e) Draftsman		1 Nos.	
f) Craft Instructors		35 Nos.	

Total: 60 Nos.

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The Directorate of Technical Education has the responsibility to recruit all the Class-III posts. No College has even half the number of these sanctioned posts. In one pretext or another these appointments were delayed and now there is embargo. The individual Colleges took initiative in 1984 to fill these posts but were thwarted by the Directorate on the plea of absorption of excess employees and departmental promotions which were not effected uptill now.

3.6 Indulgence given to students by Authority:

Things have come to such a pass that if the students can have the courage of demanding something, they usually get it. They do not hesitate to resort to such tactics as hunger strike even to realize their flimsiest demand. They can do so only because they are much too pampered by our press, our politicians, our administration. The teachers of Engineering Colleges went on strike in 1982 which did not matter at all till the students went on a hunger strike in demand for reopening their colleges. A minister goes to a college especially to make request for concessions in favour of the students jeopardizing the academic principles; on behalf of the head of Govt. instruction goes to the College authority to allow a section of the discollegiate students to appear in the University examinations without regard to the fact that such things could be done only by the Chancellor, the Vice-Chancellor and the Controller of Examinations if they had any special powers to go against the principles on which they stood; buses and televisions procured from funds allotted for the Colleges are handed over to the students making the College authority completely helpless in regulating their use. It is not all. The College authority awards punishment to students for serious breach of discipline and conduct rules, the Ministry of Education exonerates them; the College authority seeks funds for students' study tour and is turned out while the same fund in bigger quantum is released at no time when students ask for it. All these actions embolden the students and dwarf the College authority in front of them, the bitterest fruit of which is that the teachers get demoralised.

3.7 Lack of Professional attitude among teachers:

In the Engineering Colleges the system of private tutorship has not yet entered into the engineering teachers. But with very few exceptions the teachers got demoralised due to exogenous factors some of which have already been described. Quantity and quality are both needed for Engineering Education because as I have already mentioned, this education is not "knowledge for the sake of knowledge" alone. Even the arrangement of rapid promotion put on trial to increase the number of teachers harmed quality. A simile can be drawn with acute famine where many die not of starvation but from taking inedibles. The recent promotion cases and the presence of large numbers of lecturers in excess of the number of posts in some Colleges have the elements of such famine characteristics. The local authority, i.e., the Principal can do nothing about the situation when confidential communication comes to him from higher up to give indulgence and latitude to a section of teachers because in such event he cannot be partial to the other sections. The lower employees take the cue and when called to question point their fingers to their superiors. The cumulative effects of all these are:

- a) Unauthorised absence of teachers
- b) Tendency of avoiding the College before and after the class hours given him in the routine
- c) Does not want to work in the laboratories
- d) Does not become available for co-curricular and extra curricular activities
- e) Shuns self-learning for improvement,
- f) Lets the classes off at his will,
- g) Practical classes suffer extensively,
- h) Class room teaching suffers in quality and quantity,
- i) Quality of questions in examinations deteriorate, and
- j) Inferior products are generated who join teaching and repeat the cycle.

3.8 Inadequate Authority in the hand of Local Administration:

- a) This aspect needs no elaboration here as much has been said in this chapter to indicate the limited capability of the local administration. The Principal has the power to recruit only Class-IV employees. He is supposed to look after the hostels, the residential accommodations, the administrative, academic and library buildings, shops, laboratories and stores with two sweepers and twenty mali's /daftaries/night-guards etc, whereas the size of campuses are 164 acres for Chittagong, 100 acres for Khulna and 148 acres for Rajshahi. In consequence much of the contingency fund goes for employing master roll hands, where again the Upazila Accounts Office demands sanction for such employment from the Directorate.
- b) On assurance from the Directorate, a Principal hired part-time teachers at the rate of Tk. 75/- per period. In spite of many correspondences the sanction never came and the Principal had to manage payment.
- c) A Principal arranged practical classes of students with the BUET through personal persuasions in spite of reluctance on the part of the BUET which in the end asked a fee of Taka 10,000/- for the purpose. The expenditure needed sanction from the Education Ministry which turned down the proposal on the ground that the arrangement would "encourage part-time work in BUET" What more shameful could there be! and the Directorate did not say anything against it.
- d) Repair and Maintenance of vehicles is another sore point. For every repair exceeding Tk. 1,000/- the Principal has to approach the concerned vehicles Inspector.
- e) The list is on and on. The simple fact emerging from all this is that a Principal who guards a public property exceeding in value of more than Tk. 100 crore is not a person worthy of relying upon in spite of the added fact that he also looks after the well being of 700 students, about 98% of whom live in College hostels.

3.9 Lack of Support to Local Administration by the Authority:

In time of crisis the men in the fore-front, i.e. the local administration of the Colleges need to take very quick decisions as the scene starts changing very rapidly. It must have to be taken for granted that in such matters the higher authority is consulted first unless time or means at the disposal fails them. If possible, the local civilian authority is also kept advised. The result in almost all the cases turns out same. Later when the situation cools off, it is the local administration on which the ax falls. This has happened everywhere. The mutual bond of trust between local administration and the central agency gets severed. This is very detrimental to the Colleges as the local administration loses dynamism in the process.

REASONS FOR PROLONGATION OF ACADEMIC YEAR

4.1. The three Engineering Colleges at Chittagong, Khulna and Rajshahi hardly suffer from political disturbances so common in all other educational institutions of the country and yet the academic sessions in these Colleges get prolonged every year due to either localized student trouble or simultaneous teachers' movements. Khulna and Rajshahi are under the Faculty of Engineering of the Rajshahi University and hence these have the common timings of University examinations. In these Colleges the session is now running eight months behind and every year the session gets prolonged by two months on the average. The situation is worse in the Chittagong Engineering College. All these colleges declare an Academic Calendar usually at the beginning of a session which cannot be adhered to. The session in the Chittagong Engineering College is currently running 18 months behind. Table-5, Page 33 may be seen to get the picture. It may be seen that if all goes as planned, the result of a University examination can be declared usually within twelve weeks from the date of commencement of the examination. This is a good record.

4.2. The reason for prolongation of an academic session beyond a calendar year under normal circumstances is that every year the students demand longer and longer preparation time before any sort of examination, be it college or University. The author of this paper might have been in his college now ~~rather~~ being here presenting this paper had his administration acceded to such a demand by the students.

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Following are the records from the Academic Calendar of the Rajshahi Engineering College in connection with its college Mid-term examination.

<u>Year</u>	<u>Class Days</u>	<u>Preparation time</u>	<u>From</u>	<u>To</u>	<u>No. of days</u>
1973	X	Vacation	4-6-73	11-6-73	8
1975	48/140	Vacation	1-7-75	12-7-75	12
1976	45/115	Vacation	15-6-76	19-6-76	5
1977	70/140	Vacation	13-6-77	17-6-77	5
1980-81	49/108	Vacation	3-8-82	23-8-82	21
1983	73/125	Vacation	19-7-83	9-8-83	22
1984	46/124	Vacation	9-7-84	31-7-84	23
1985	54/121	15 days	9-9-85	28-9-85	20

The Mid-term examination contains 20 to 25% of the marks of a subject and the rest is in the annual University examination. The Mid-term examination carries no pass or fail of its own. It is because the University Ordinance does not spell out any thing regarding the preparation time and the duration time, the Khulna students first took the advantage and Rajshahi authorities had to yield. The Chittagong students demanded such previlages which the Principal could not give due to restrictions spelled out in the University Ordinance and so he was the greatest culprit. After his relinquishing of charge there was a trade off in which the students did appear in the said examination according to the same guide lines against which they made movement but these were later modefied according as they desired. The arrangement will either cut short the actual class days or prolong the session. Other and the most serious consequence is that the Ordinance became a play thing to them.

4.3. For the duration of annual examination the general Universities have set the rule that examination in not more than two theory papers could be held in a week. The students seek minimum of four weeks of preparation time before the examination and according to the set rule it requires five weeks to conduct an annual examination.

4.4. The Chittagong and Rajshahi Engineering Colleges are currently following the cycle system of counting the ins-

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struction week. Khulna and Dhaka Engineering Colleges follow normal working weeks which has the advantage to the students that whenever there is a sandwiched working day between two holidays it can easily be skipped keeping the working week intact. This advantage is lost in the cycle system as each day is carefully counted. The BUET " Ordinances, Statutes, Rules and Regulations, 1977 " is silent about the instruction weeks in an academic year; Rajshahi University Ordinance for the degree of B.Sc. Engineering in its para 2(a) states that " In an academic year there shall be 28 instructional weeks " clear of other Co-curricular activities; the Chittagong University Academic Council in its 93rd meeting held in 1984 approved that "the ideal duration" for an academic session of its Engineering Faculty is "32(thirty-two) instruction weeks." If a stock taking is done then the picture comes as follows :-

Preparation time for Examinations	6 weeks
Conducting examinations	(8 weeks
Gazetted holidays and Vacations	10 weeks
Publication of Result	7 weeks
Instruction, minimum	25 weeks
Sports, Cultural week, etc.	1 week
Total	57 weeks.

Thus it is seen that a normal academic year now takes nearly 14 months. If the Ordinances were to have been followed meticulously then under the prevailing circumstances a normal Academic session would take 15 to 16 months.

- 4.5. The harmful effect of the referred examination is that these examinations are generally held within the normal class days, as otherwise another minimum 8 weeks extra time would be needed to complete an academic session, and the candidates for these examinations remain most irregular in classes till the result of such examination is given. This gives rise to the tendency of the students for demending long preparation time and examination duration as they cannot otherwise cover up the materials of study. These students generally become non-collegiates and discollegiates, i.e., class attendances below 70% and 60% respectively and are always behind the local troubles in colleges.

DHAKA ENGINEERING COLLEGE

- 5.1 The reason for Dhaka Engineering College getting a special place in my paper is that it is different in many respects from the other three Engineering Colleges. It admits only the Diploma-in-Engineering passed candidates of Bangladesh Technical Education Board. The selected candidates first complete a 14 week preparatory course run by the College and get admission into 1st year of a 3-year degree course of the Dhaka University. Its present enrolment is 120 and execution of a plan is at hand to raise its intake capacity to 240 by 1988-89 session.
- 5.2 More than a thousand Diploma-in-Engineering passed candidates apply for admission in this College. The entry of Diploma-in-Engineering passed candidates is always open in the other three Engineering Colleges also which run a four year degree course. The total number of such candidates seeking admission in all these three Colleges in the regular degree programme from their days of inception will hardly exceed fifty. It is very strange that this College is much too popular in a section of the aspirants for becoming engineers. The academic advantage of only six months can hardly be a satisfactory reason with its first batch admitted in 1980 yet to come out from the College.
- 5.3 I asked many if they would consider appointment of graduates of this College as teachers in any Engineering College. All except one tried to avoid a direct answer and, when pressed further, replied in the negative. The answer of the lone remaining one will remain a privileged information to me.
- 5.4 All this leads me to look at this College with suspicion. I will suggest a careful watch on this College.
-

FUTURE OF ENGINEERING COLLEGES

6.1. Uptill now the Govt. have thought of many measures to alleviate the conditions of the Engineering Colleges.

These are :

- a) The Colleges be made "Institutes" of zonal Universities;
- b) The Colleges be affiliated to the BUET;
- c) The Colleges be merged with BUET and made its outer campuses;
- d) The Colleges be given full autonomy in phases; for a maximum of five years under a common umbrella as a growth and development period with BUET giving advisory service and later becoming self-degree awarding centres of learning with specialisation in limited fields of higher studies.

6.2. All these excepting the second proposal shown above, have merits and demerits. The second proposal is merely putting old ~~wise~~ in a new bottle. Moreover, the BUET raised objection to it on the grounds that such arrangement might do harm to BUET itself quality-wise. The apprehension is not unrealistic.

6.3. The Engineering Colleges, in early days supported the first proposal, i.e., Institutes of local Universities, but later thought, it better and withdrew from it. The dark side of this proposal is that other Faculties of the Universities do not spend even one-third of the budget of an Engineering College and hence the Engineering Institutes could not expect much of finance needed. Moreover, the Rajshahi Engineering College being next door to the University would completely be annihilated. The third objection was that the students politics would become vigorous drawing them away from study.

6.4. The proposal for merger with BUET as its outer campuses though sounds good, has not been met with good response from either the BUET or the Colleges. The objection to this proposal from the Colleges' side was that these would then loose senior teachers and better teachers whose natural

tendency would be to have a place in BUET. Many BUET teachers did not like the idea for the opposite reason that some of them might leave Dhaka.

6.5. The last proposal, i.e., the proposal for autonomy did not arise from the Engineering Colleges. It was in 1981, perhaps in January, that there was a high powered meeting where the Prime Minister, the Planning Minister, the State Minister for Education and top Officials of the Education Ministry and the Finance Ministry, BUET and Engineering College representatives sat together to discuss the issue of Engineering Colleges. There in that meeting the Govt. in unequivocal terms let out that it was not possible on the part of the Govt. to run the Engineering Colleges through the Directorate of Technical Education and better that the Colleges become autonomous. The issue of degree standard Colleges were also discussed there but it was explained that national interest would determine the issue. From then on the Engineering College teachers are relentlessly persuing the matter. The past Govt. issued a press note also in this regard on 19.3.1982 subsequent to teachers' strike. The present Head of the State declared on 17.1.85 that **these** would be made autonomous. He however did not mention any time schedule for it. The issue is still alive.

6.6. Many in the top hierarchy are skeptical about the existence of autonomous Engineering Colleges. It is also a fact that the Govt. is unable to run these Colleges properly. The Appendix given in the last page may be seen. My findings are that the situation is worsening with time.

CONCLUSION AND RECOMMENDATION

7.1. The findings are :

- a) The Engineering Colleges have acute shortage of teachers and under the present set up a long time will be needed augment it,
- b) The Engineering Colleges suffer from student troubles of local nature arising from the reluctance of teachers to exert themselves in developing these Colleges,
- c) The teachers of Engineering Colleges have been met with perpetual neglect causing their general demoralisation,
- d) The students are given undue indulgence by the authority,
- e) The Directorate of Technical Education has played a very weak role in the matters of these Colleges.

7.2. The recommendation is that as it is in no way possible for flourishing of these Colleges under direct Govt. Control so, at least on trial basis, these Colleges be given autonomy which may be withdrawn if anything adverse happens. The final word in this regard is that unless one goes to water one knows not how to swim, what is needed is someone elder nearby for safety till the apprenticeship is over.

====X====

Depts Contd.

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TABLE -1

STRENGTH OF TEACHERS IN ENGINEERING COLLEGES.
Name of College: Engineering College, Chittagong.

I= No. Influx.
E= No. Efflux.
R= No. Remained.

YEAR	Civil Engineering						Electrical Engineering						Mechanical Engineering					
	Lect	Asst.	Assoc.	Prof.	Overall		Lect	Asst.	Assoc.	Prof.	Overall		Lect	Asst.	Assoc.	Prof.	Overall	
1968	1	-	-	-	2	-	-	-	-	-	-	-	2	-	-	-	2	-
1969	1	1	-	-	2	1	3	1	-	-	1	1	2	-	-	-	2	1
1970	2	3	-	-	2	3	2	1	-	-	3	1	3	2	-	-	1	2
1971	-	-	-	-	-	2	1	-	-	-	3	1	-	-	-	-	2	2
1972	-	1	-	-	1	3	1	2	1	-	3	1	5	2	2	-	4	2
1973	2	-	1	-	2	3	1	1	-	-	2	5	4	4	1	-	5	4
1974	-	-	-	-	1	4	1	1	-	-	2	6	2	-	1	-	2	1
1975	-	-	-	-	-	3	1	-	-	-	1	5	2	2	1	-	3	3
1976	-	1	1	1	3	2	4	1	1	-	4	2	7	5	-	1	5	6
1977	-	1	2	1	2	2	4	5	2	-	4	5	6	3	6	-	6	5
1978	3	-	1	1	4	3	5	4	1	-	4	6	5	2	1	-	5	3
1979	3	4	-	-	4	5	4	2	-	1	8	2	4	1	2	1	4	6
1980	1	2	-	1	2	2	4	3	1	2	4	4	2	1	-	-	5	3
1981	2	1	-	1	3	3	4	1	-	-	4	1	3	-	-	1	4	4

(Table-1 Contd.)

--:23:--

YEAR	Civil Engineering					Electrical Engineering					Mechanical Engineering				
	Lecturer	Asstt. Prof.	Assoc. Prof.	Prof. ssor	Overall	Lecturer	Asstt. Prof.	Assoc. Prof.	Prof. ssor	Overall	Lecturer	Asstt. Prof.	Assoc. Prof.	Prof. ssor	Overall
1982	4	1	1	1	6	2	8	3	1	1	1	1	1	1	6
1983	4	5	1	1	5	6	7	4	2	1	1	1	1	1	7
1934	1	1	1	1	2	1	8	2	2	1	2	2	8	2	7
1985	1	1	1	4	4	1	3	2	2	1	2	7	1	1	8

STRENGTH OF TEACHERS IN ENGINEERING COLLEGES.

Name of College:-Engineering College, Dhaka.

I = No. Influx.
E = No. Ifflux.
R = No. Remained.

YEAR	Civil Engineering					Electrical Engineering					Mechanical Engineering				
	Lecturer	Asstt. Prof.	Assoc. Prof.	Prof. ssor	Overall	Lecturer	Asstt. Prof.	Assoc. Prof.	Prof. ssor	Overall	Lecturer	Asstt. Prof.	Assoc. Prof.	Prof. ssor	Overall
1982	1	1	2	1	3	1	2	1	1	2	1	2	2	1	5
1983	3	1	1	1	4	2	4	3	1	1	2	1	1	1	7
1984	1	1	1	1	4	4	4	4	1	1	1	1	1	1	8
1985	3	1	1	1	5	1	8	3	1	1	1	1	1	1	8

(TABLE-1 Contd.)

STRENGTH OF TEACHERS IN ENGINEERING COLLEGES.
Name of College: Engineering College, Khulna.

I = No. Influx.
E = No. Ifflux.
R = No. Remained.

YEAR	Civil Engineering										Electrical Engineering										Mechanical Engineering										
	Lecturer					Asstt. Prof.					Assoc. Prof.					Lecturer					Asstt. Prof.					Assoc. Prof.					
	I	E	I	E	R	I	E	I	E	R	I	E	I	E	R	I	E	I	E	R	I	E	I	E	R	I	E	I	E	R	
1972	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	1	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1974	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2	-
1975	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1976	1	-	-	-	-	1	1	2	1	3	4	2	-	-	-	1	-	5	2	4	1	1	-	-	-	-	-	-	-	1	1
1977	1	1	2	-	-	-	-	-	-	-	3	2	-	1	-	-	-	3	3	4	2	2	-	-	-	-	-	-	-	4	2
1978	1	1	-	-	-	-	-	-	-	-	3	4	2	1	-	-	-	5	5	4	3	2	-	-	-	-	-	-	-	3	2
1979	0	1	1	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	1	4	-	1	-	-	-	-	-	-	-	-	1
1980	1	2	-	-	-	-	-	-	-	-	2	2	1	1	-	-	-	3	3	4	6	1	-	-	-	-	-	-	-	6	1
1981	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	1	7	-	-	-	-	-	-	-	1	8
1982	7	3	1	-	-	-	-	-	-	-	5	3	2	1	1	-	-	8	4	7	5	-	-	-	-	-	-	-	-	7	2
1983	3	4	2	1	1	-	-	-	-	-	1	-	-	-	-	-	-	2	1	8	2	4	3	1	1	-	-	-	-	6	5
1984	3	5	1	1	-	-	-	-	-	-	3	1	-	1	-	-	-	3	3	8	2	-	-	1	1	-	-	-	-	4	1
1985	-	2	1	1	-	-	-	-	-	-	1	3	-	-	-	-	-	1	2	4	-	1	-	2	1	1	-	-	-	2	4

(TABLE-1 Contd.)

STRENGTH OF TEACHERS IN ENGINEERING COLLEGES.
Name of College: Engineering College, Rajshahi.

I = No. Influx.
E = No. Ifflux.
R = No. Remained.

YEAR	Civil Engineering									Electrical Engineering									Mechanical Engineering								
	Lect.	Asstt.	Assoc.	Profe	Over-all					Lect	Asstt.	Assoc.	Profe	Over-all					Lect	Asstt.	Assoc.	Profe	Over-all				
	urer	Prof.	Prof.	ssor						urer	Prof.	Prof.	ssor						urer	Prof.	Prof.	ssor					
	I	E	I	E	I	E	I	E	R	I	E	I	E	I	E	I	E	R	I	E	I	E	I	E	I	E	R
1964	1	-	-	-	-	-	-	-	1	-	1	-	1	-	-	-	2	-	2	-	-	-	1	-	-	-	1
1965	-	1	2	-	-	-	-	-	2	1	2	-	-	-	-	-	-	2	1	-	-	-	-	-	-	1	-
1966	1	-	-	-	-	-	-	-	1	-	3	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2
1967	1	-	-	-	-	-	-	-	1	-	4	-	-	-	1	1	3	-	-	1	-	-	1	1	-	2	1
1968	2	2	1	-	-	-	1	-	4	2	6	2	-	-	-	-	-	2	-	5	-	1	-	-	-	-	4
1969	-	1	-	1	1	-	-	1	1	3	4	1	3	-	-	-	1	3	2	6	4	-	-	-	-	-	4
1970	-	-	2	1	1	1	1	-	4	2	6	1	-	1	-	-	1	-	2	1	7	-	-	-	-	1	1
1971	-	-	-	-	-	1	-	-	-	1	5	-	-	-	-	-	-	-	-	7	1	-	-	1	1	-	2
1972	2	1	1	1	2	-	-	-	5	2	8	2	2	1	4	-	-	-	3	3	7	1	3	3	1	-	4
1973	-	-	-	-	-	-	-	-	-	-	8	-	1	1	3	2	-	-	-	3	4	6	1	-	-	-	1
1974	4	-	-	-	-	1	-	1	4	2	10	3	-	-	-	-	-	-	3	-	9	2	1	1	-	-	1
1975	2	4	-	1	-	-	1	-	3	5	8	-	-	-	-	-	-	-	9	1	2	-	1	-	-	-	1

Table Contd.

(TABLE -1 Contd.)

YEAR	Civil Engineering												Electrical Engineering												Mechanical Engineering																				
	Lect-ur			Asstt. Prof.			Assoc. Prof.			Profe ssor			Over-all			Lect-ur			Asstt. Prof.			Assoc. Prof.			Profe ssor			Over-all			Lect-ur			Asstt. Prof.			Assoc. Prof.			Profe ssor			Over-all		
	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R			
1976	2	-	-	2	1	1	-	-	3	3	8	2	3	1	-	-	1	-	-	3	4	8	-	1	2	2	-	1	1	-	3	4	6												
1977	2	4	1	-	-	-	-	-	3	4	7	1	1	1	-	-	-	-	-	2	1	9	2	3	1	1	-	-	-	1	3	5	4												
1978	1	2	1	1	1	-	-	-	3	3	7	3	4	1	1	1	-	-	-	5	5	9	4	4	1	1	-	-	1	6	5	5													
1979	-	1	1	-	-	2	-	-	1	3	5	1	2	1	-	-	1			2	3	8	1	-	-	1	-	-	-	1	1	5													
1980	4	1	-	1	2	-	-	1	6	3	8	2	1	-	-	-	-	-	-	2	1	9	-	-	2	1	-	-	-	1	2	2	5												
1981	1	1	-	-	-	1	-	-	2	1	9	-	1	-	-	-	-	-	-	1	8	1	2	1	1	1	-	-	-	3	3	5													
1982	4	-	-	-	-	1	-	-	4	1	12	4	3	-	3	2	-	-	-	6	6	8	2	2	3	1	1	-	-	6	3	8													
1983	3	5	2	2	-	1	-	-	5	8	9	2	3	1	1	-	1	1	1	4	6	6	-	1	-	2	1	2	1	2	5	5													
1984	3	1	1	-	1	-	-	-	5	1	13	5	1	-	-	-	-	-	-	5	1	10	4	1	-	1	-	1	-	4	3	6													
1985	-	-	1	1	1	-	-	-	1	1	13	1	-	-	1	1	1	-	-	2	2	9	-	-	2	2	1	-	-	3	2	7													

Table-2
Year-Wise No. Of Engineering Teachers Full Time Available in Chittagong Engineering College

Year	Civil Engineering					Electrical & Electronic Engg.					Mechanical Engineering				Total	All
	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe- ssor	Total	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe- ssor	Total	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe- ssor	Total	
San- tioned	6	7	2	1	16	6	7	2	1	16	6	7	2	1	16	48
1972	-	2	-	1	3	2	2	-	1	5	2	2	-	-	4	12
1973	2	1	-	-	3	3	1	-	1	5	2	3	-	-	5	13
1974	2	1	-	1	4	3	2	-	1	6	4	2	-	-	6	16
1975	2	1	-	-	3	3	2	-	-	5	4	2	-	-	6	14
1976	1	1	1	1	4	5	1	1	-	7	4	1	-	-	5	16
1977	-	2	1	1	4	2	3	1	-	6	1	4	-	-	5	15
1978	3	1	1	-	5	1	4	1	-	6	4	3	-	-	7	18
1979	2	1	-	1	4	3	3	1	1	8	2	2	1	-	5	17
1980	1	1	1	1	4	-	2	1	1	4	4	2	1	-	7	15
1981	2	1	1	-	4	-	2	1	1	4	2	2	-	-	4	12
1982	5	1	1	1	8	3	2	1	1	7	4	2	1	-	7	22
1983	4	1	1	1	7	5	1	1	1	8	3	3	-	1	7	22
1984	4	2	1	1	8	5	1	1	1	8	3	3	-	1	7	23
1985	3	1	1	1	6	3	1	2	1	7	3	3	1	1	8	21

Table Contd.

Year-Wise No. of Engineering Teachers Full Time Available in Dhaka Engineering College

Year	Civil Engineering					Electrical Electronic Engg.					Mechanical Engineering					All Total
	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe- ssor	Total	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe- ssor	Total	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe- ssor	Total	
Santi- oned	4	5	2	1	12	4	5	2	1	12	4	5	2	1	12	36
1982	-	-	1	1	2	1	1	2	-	4	1	2	2	-	5	11
1983	3	-	1	-	4	4	1	1	1	7	3	2	1	1	7	18
1984	3	-	1	-	4	8	1	1	1	11	3	3	1	1	8	23
1985	5	1	1	1	8	10	1	1	1	13	3	3	1	1	8	29

Table Contd.

(Table-2 Contd.)

Year-Wise No. of Engineering Teachers Full Time Available in Khulna Engineering College

Year	Civil Engineering					Electrical Electronic Engg.					Mechanical Engineering					All Total
	Lecturer	Asstt. Prof.	Assoc. Prof.	Professor	Total	Lecturer	Asstt. Prof.	Assoc. Prof.	Professor	Total	Lecturer	Asstt. Prof.	Assoc. Prof.	Professor	Total	
Sanctioned	6	7	2	1	16	6	7	2	1	16	6	7	2	1	16	48
1972	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	1
1973	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	2
1974	1	-	-	1	2	1	1	-	-	2	2	-	-	-	2	6
1975	1	-	-	1	2	-	1	-	-	1	2	-	-	-	2	5
1976	2	-	-	1	3	2	1	-	1	4	2	-	-	-	2	9
1977	2	2	-	1	5	2	-	-	1	3	2	2	-	-	4	13
1978	2	1	-	1	4	2	1	-	1	4	3	2	-	-	5	15
1979	4	2	-	1	7	1	2	-	1	4	2	2	-	-	4	15
1980	3	2	-	1	6	1	2	-	1	4	7	2	-	-	9	19
1981	3	1	-	-	4	1	2	-	-	3	1	1	-	-	2	9
1982	7	2	1	-	10	3	3	1	-	7	6	1	-	-	7	24
1983	6	3	2	1	12	4	2	2	-	8	4	3	1	-	8	28
1984	4	3	2	1	10	6	1	1	-	8	6	3	2	-	11	29
1985	4	3	2	1	10	4	-	1	-	5	5	1	2	1	9	23

Year-Wise No. of Engineering Teachers Full Time Available in Rajshahi Engineering College

Year	Civil Engineering					Electrical & Electronic Engg.					Mechanical Engineering					All
	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe ssor	Total	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe ssor	Total	Lect- urer	Asstt. Prof.	Assoc. Prof.	Profe ssor	Total	
Sanctioned	6	7	2	1	16	6	7	2	1	16	6	7	2	1	16	48
1972	2	3	2	1	8	3	3	-	1	7	3	2	1	1	7	22
1973	2	3	2	1	8	2	1	2	1	6	4	2	1	1	8	22
1974	6	3	1	-	10	5	1	2	1	9	5	3	1	-	9	28
1975	4	2	1	1	8	5	1	2	1	9	4	2	1	-	7	24
1976	6	-	1	1	8	4	2	1	1	8	3	2	-	1	6	22
1977	4	1	1	1	7	4	3	1	1	9	2	2	-	-	4	20
1978	3	1	2	1	7	3	3	2	1	9	2	2	-	1	5	21
1979	2	2	-	1	5	2	4	1	1	8	3	1	-	1	5	22
1980	5	1	2	-	8	3	4	1	1	9	3	2	-	-	5	22
1981	5	1	2	1	9	2	4	1	1	8	2	2	1	-	5	22
1982	9	1	1	1	12	3	1	3	1	8	2	4	2	-	8	28
1983	7	1	-	1	9	2	1	2	1	6	1	2	1	1	5	20
1984	9	2	1	1	13	6	1	2	1	10	4	1	-	1	6	29
1985	9	2	1	1	13	7	-	2	1	10	4	1	1	1	7	30

TABLE-3.
NO. OF ENGINEERING TEACHERS DESERTING THE ENGINEERING COLLEGES

Year	Teachers Leaving College Posts In Service Place Change										No. of Teachers		Remarks
	Chitta- gong	Dhaka	Khulna	Rajshahi	Gross Total	Sent Abroad	Simple Transfer	Promo tion	Total	Quit	Jobs	No. returned from Trainees	
1972	3	-	-	9	12	3	-	9	12	-	-	1	
1973	8	-	1	4	13	-	3	3	6	7	-	-	
1974	2	-	1	4	7	-	-	1	1	6	-	-	
1975	5	-	1	8	14	6	1	-	17	7	-	2	
1976	10	-	4	11	25	4	2	8	14	11	-	2	
1977	13	-	6	10	29	4	-	13	17	12	-	3	
1978	10	-	9	13	32	2	2	6	10	22	-	2	
1979	12	-	3	7	22	1	2	8	11	11	-	1	
1980	10	-	6	6	22	6	4	1	11	11	-	4	
1981	8	-	13	5	26	5	2	2	9	17	-	3	
1982	5	1	9	10	25	1	2	13	16	9	-	1	
1983	17	4	11	19	51	5	1	18	24	27	-	3	
1984	5	-	10	5	20	9	2	3	14	6	-	Training Still Continues	
1985	5	3	11	5	24	3	2	9	14	10	-		
Total	113	8	85	116	322	49	23	94	166	156	-	22	

TABLE-4.
PROMOTION TO HIGHER TEACHING POSTS IN ENGINEERING SUBJECTS
All Engineering Colleges Combined.

Year	No. Promoted To Posts of			Vacant Posts After Promotion			Posts Blocked by Trainees Abroad	Net Vacant Posts	Remarks		
	Asstt. Prof.	Assoc. Prof.	Profe ssor	Asstt. Prof.	Assoc. Prof.	Profe ssor					
1972	8	1	-	9	48	14	4	66	3	63	Sanctioned and created posts in each of the three Colleges of Chittagong, Khulna and Rajshahi :-
1973	1	2	-	3	51	12	4	67	2	65	
1974	-	-	1	1	50	13	4	67	2	65	
1975	-	-	-	-	52	12	6	70	6	64	
1976	2	3	3	8	55	14	3	72	9	63	Assistant Prof.=7x3=21
1977	13	-	-	13	44	14	4	62	13	49	Associate Pro.=2x3= 6
1978	3	3	-	6	45	12	3	60	15	45	Prof.=1x3= 3
1979	6	-	2	8	40	11	3	54	17	37	Total =30
1980	1	-	-	1	45	12	4	61	15	46	x 3
1981	-	2	-	2	47	12	5	64	17	47	All Total=90
1982	5	7	1	13	58	13	7	78	17	61	Dhaka Engineering College Started in 1982 has additional 24 such posts. Present Total =114 higher posts.
1983	7	5	6	18	58	11	3	72	19	53	
1984	2	1	-	3	55	8	2	65	21	44	
1985	1	6	2	9	60	6	1	67	19	48	

TABLE-5.
PERFORMANCE RELATING TO ACADEMIC SESSION
Chittagong Engineering College

Academic Session	Annual Examination Part	Held From	Session Lag, Months.	Incremental Lag, Months.	Exam. to Result Months.	Cause of Incremental Lag
1971-72	All	Nov., 1973	18	-	5	Back log.
1972-73	All	Feb., 1975	21	(+) 3	3	...ter of Principal & two teachers
1973-74	I, II & III	Feb., 1976	21	-	2	
	IV	Apr., 1976	23	(+) 2	4	
	I & II	Oct., 1976	17	(-4)	3	Academic attainment Sacrificed.
1974-75	III&IV	Feb., 1977	21	(-2)	4	
	I & II	Oct., 1977	17	-	2	
1975-76	III	Nov., 1977	18	(+) 1	3	
	IV	Apr., 1978	23	(+) 2	5	
1976-77	II&III	Jun., 1979	25	(+) 8	4	Students' agitation against de claring "Discollegiate" and ...ter of Principal
	IV	Jul., 1979	26	(+) 8	4	
1977-78	I	Jun., 1979	13	(-) 12	4	Merger of 1976-77 & 1977-78 Se ssions en hanced star ting time.
	III	Oct., 1980	29	(+) 4	4	
	IV	Sept., 1980	28	(+) 3	5	Go-Slow po licy of te achers to realise de mand.
1978-79	I & II	Oct., 1980	17	(+) 4	5	
	IV	Dec., 1981	31	(+) 2	4	
1979-80	All	Dec., 1981	19	(+) 2	5	Students' demand for long prepa ration time & Examinat ion duration
1980-81	All	Apr., 1983	23	(+) 4	3	Teachers' Strike Govt. Closure 1 month.
1981-82	I	Apr., 1983	11	(-) 12	3	Students' boycott of Exam.on 2.5.84 pro- longed exam. period by 2 months.
	III&IV	May, 1984	24	(+) 1	5	
1982-83	I & II	May, 1984	12	(+) 1	5	Ouster of Principal on Students' demand.
	IV	Nov., 1985	30	(+) 6	-	
1983-84	All	Nov., 1985	18	(+) 6	-	

APPENDIX

Excerpt from the Ministry of Education Memo.No.
SXI/10M-8/77/286/10-Edn., dt.:18.7.80.

" Discussion :

At the request of the Chairman, Mr. M. A. Jabbar, Deputy Educational Adviser of the Ministry of Education gave a background of the case pertaining to the question of merging the existing Engineering Colleges with the Bangladesh University of Engineering and Technology and related issues. The Chairman explained the difficulties that were being faced by the Engineering Colleges due to acute shortage of qualified teachers because of inadequacy of pay scales and other facilities which failed to attract talented engineering graduates to the teaching careers in these Colleges and other problems. Because of these problems, Engineering Colleges cannot cater to the students' academic needs. It was pointed out that we are now producing two types of Engineering graduates; superior from the Engineering University and inferior from the Engineering Colleges but everyone is a degree engineer of a supposedly high quality. The academic, administrative and financial difficulties of these colleges were discussed thoroughly in the meeting. Everybody recognised the need for urgent solution of the problems of these colleges for the sake of quality of engineering education in the country."

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BANGLADESH PUBLIC ADMINISTRATION TRAINING CENTRE
SAVAR, DHAKA.
=====

SEMINAR PAPER
ON

" THE NEW INDUSTRIAL POLICY OF BANGLADESH :
Salient features and implications."

|||

Md. Matiur Rahman
(a participant)

BPATC/Sr, S.C-18
April, 86.

The role of industries in the economic development of a country can hardly be over-emphasised. Particularly, in a country like Bangladesh where agriculture is the mainstay of the economy, industries have definitely a very important role to play for accelerating the process of national economic development. In our present circumstances, economic development and industrialisation have virtually become inseparable.

Bangladesh is a small country with a very big population of about 100 million which is ever-increasing at a high rate of growth. Except for some city-states like Singapore, Hong Kong, etc., the density of population here is the largest in the world. Nearly 90% of the people still depend on agriculture for their livelihood which clearly indicates a very high pressure on the sector. There exists large-scale unemployment in the country already(nearly 5 million people are unemployed now); besides, every year more and more people(about 10 lac, each year) are entering into the labour market for job. In the rural sector which absorbs nearly 79% of the labour force there is already large-scale unemployment and under-employment. With limited cultivable land, agriculture sector is more than saturated in respect of labour employment ;

intensification of cropping and introduction of modern technology to the sector can create very little or limited additional job opportunities ; this means, industries sector is the one that is to be looked upon for more and more job opportunities for the teeming millions of unemployed ; incidentally, the sector now employs only 9% of the total labour force. Again, the country is in a serious economic trap. The economy being still agrarian and the industrial base being very small and limited, the export of the country constitutes mainly primary and semi-processed commodities which fetch uneconomic price compared to the high price being paid for the imported manufactures. Unless import substituting and agro-process industries are set up in the country, there is no way out of this trap and the balance of payments - position will continue to remain alarmingly unfavourable in the future too as at present.

As against the situation stated above, the industries sector is yet to assume its destined historic role for growth of the economy. The poor ~~st~~ state of the sector is evident from the fact that where the agriculture sector has a share of about 48% in the GDP, the share of industries sector has so far been no more than 8.5 p.c. on the average. The situation must improve very quickly if the economy is to keep going. Industrialisation, therefore, has to be regarded as a central objective of the country's economic policy. The sector must combat under-development and reduce dependence on import in the matter of requirement of finished

goods, increasing export of more and more finished goods where value addition is high making best use of local resources of manpower and material. Indigenous production capabilities has to be developed, thus transforming the economy so as to generate a self-sustaining development with minimum external dependence.

The leanness and the sluggish growth of the industries sector in Bangladesh can however be explained by historical events. In the pre-liberation days, Bangladesh(the then East Pakistan) was kept industrially backward by the discriminatory industrial policy followed by the then Govt. of Pakistan which favoured growth of industries only in the then West Pakistan. This will be clear from the facts that in the early years of partition of the Indian Subcontinent, i.e. in 1949-50, Pakistan owned no more than 34 big manufacturing factories and had an industrial labour force of 26400 only ; during the following two decades, the country was able to raise the contribution of the industries sector to the GDP from 6 p.c. to 12 p.c. ; but bulk of this had come from the big industries set up in the Western Wing of the country ; East Pakistan remained industrially backward and neglected ; although in the 60's some industries were set up here, East Pakistan had, in fact, served as a market for the manufactures produced in the industries set up in West Pakistan.

In 1968-69, the number of registered factories in East Pakistan was 3130 of which 791 was in textiles, 576 in chemicals, 406 in food manufacturing, 257 in metal products, 207 in footwear, wearing apparel and made up textiles,

and 149 in leather and leather products. There were also many unregistered units of tiny nature.

During the liberation war, there had been wide spread dislocation in the manufacturing sector with damage to buildings, loss of tools and equipments, vehicles, raw materials, stores, spares and finished goods. A provisional estimate of the Planning Commission put the replacement cost of such assets and properties at Tk.29.15 crores.

The emergence of Bangladesh had radically changed the whole pattern of industrial ownership and policy. As a socialistic measure the Government took over all units abandoned by the Pakistanis and absentee owners, nationalised Jute, Cotton, Textiles and Sugar mills and proceeded to establish sector corporations, each for Jute Mills, Textile Mills, Sugar Mills, Steel Mills, Engineering and Shipbuilding, Paper and Board, Food and Allied Products, Gas, Oil and Minerals and Fertilizer, Chemicals and Pharmaceuticals. Forest, Fisheries, Film, and Small Industries Development Corporations were already there from before liberation. Tanneries Corporation and Cottage Industries Corporation were subsequently set up. Besides, Sena Kalyan Sangstha and Mukti Juddhya Welfare Foundation were also given a number of industrial units to be operated under their management. Later, the corporations were re-organised by merging some of them together. Among the nationalised units not handed over to the corporations, some were managed by the D.G. Industries and the remainder was run by the Special Property Cell. The public sector so constituted owned virtually 86% of the industrial productive

capacity which clearly indicated a predominant role for the public sector.

The First Five Year Plan also assigned quite logically a predominant role to the public sector for industrialisation of the country; the Plan attached comparatively very low importance to the private sector. The private sector was supposed to supplement, in most cases, rather than compete with the public sector. Areas of operation where the private sector would invest in small industries were engineering industries, food and allied products, service industry, textile goods, printing and publishing, chemicals and leather and rubber products. Investment programmed for the private sector, therefore, had only around 15.59 and 15.96 p.c. of the total and foreign exchange resources allocated to the industrial sector under the Plan.

The First Industrial Policy, announced by the Govt. in 1972 provided for the key sectors including the bulk of the industries that were already in the public sector to be so retained. Keeping in with the Govt.'s commitment to the establishment of a socialist economy, all industries of basic and strategic importance, or in the nature of public utility services would remain exclusively in the public sector. While the public sector would be consolidated, the private sector would be provided with opportunities for investment in a large number of industries within the framework of a planned economy, with an investment ceiling of Tk.25 lac in fixed assets (this could rise to Tk.35 lac through accumulation of profit), a definite improvement over the previous ceiling of Tk.15 lac imposed under the nationalisation measures. The

The policy also provided that no enterprise would be nationalised within ten years of its establishment ; foreign direct investment would be allowed only ~~in~~ in collaboration with the public sector corporation and only with a minority equity participation of 49% or below. Full freedom was guaranteed for the transfer of annual profits and for the repatriation of capital spread over a number of years. A minimum dividend of 15% subject to the availability of profits was also guaranteed.

Whether private investment was discouraged by the ceiling was unclear for various reasons. We need not go into a detailed discussion of these things here. As for the public sector, it did not on the whole perform well in terms of generating surpluses and contributing to the resources for development. Out of the 10 corporations the biggest sector, the jute manufacturing industry, along with the others, i.e. Paper, Board and Tanneries made consistent losses. Seven others earned profits but at low rates.

Since 1973-74, there had been increasing pressure for an upward revision of the ceiling and for allowing a larger role of foreign investment, especially in collaboration with domestic private enterprise. Eventually, the policy was revised in July, 1974. The new policy reserved eighteen sectors in the public sector ; the rest were thrown open to the private sector. Public utilities, such as, telegraph, telephone, cables and wireless apparatus, electricity, air transport and shipping, atomic energy, arms and ammunition were reserved for the

public sector. But inland shipping and road transport were thrown open to both private and public enterprise. In the field of industry proper, only eleven industries were reserved for the public sector : Ship-building and heavy engineering, heavy electrical, minerals, oil and gas, petro-chemicals, heavy and basic chemicals and pharmaceuticals, and iron and steel. At the same time, the ceiling was raised to 300 lac. Private foreign investors were allowed to enter into partnership with domestic private investors mainly where technological and managerial gaps existed. The moratorium on nationalisation was also extended from ten to fifteen years and fair equitable compensation was guaranteed in the event of subsequent nationalisation.

During the period from the middle of 1974 to November, 1975 a number of important political changes had taken place. The Govt. which was established after the last coup in the month of Nov., 1975 opted for a much greater role for private enterprises in all spheres of economic activity. The industrial policy was again revised in December, 1975 and since then a series of important changes in policies and institutions were initiated to improve the investment climate and better utilise the private sector's potential. Industries previously reserved for the public sector were, thrown open to private investment. Moreover, on considerations of economy, technology and management, management contract might be allowed to national private investors, where possible. The provision regarding fifteen years' moratorium on nationalisation was abolished. Financial and credit

policies were re-oriented towards promoting the cause of private investment. The public sector corporations which had acquired some of the abandoned but smaller industrial units were encouraged to sell them back to the private sector.

Subsequently, decisions were taken to disinvest or transfer to private hands the abandoned enterprises wherever found suitable, without limit as to the size or scale of operations ; following the Govt. decision for progressive disinvestment of the industrial units, during the period from 1973-80, a total of 199 industrial units were disinvested by the Govt. at a total sale price of Tk.11.58 crore. Improvement and simplification of investment approval and loan disbursement procedures were made ; 22 sub-sectors of industries were left to investors' decisions where no formal permission was necessary to set up industries provided capital machinery was imported under WES or non-repatriable foreign investment. Black-money if declared could be used without questioning for new investments and purchase of disinvested units. The investment ceiling was further ~~raised to Tk.10 crore~~ raised to Tk.10 crore and finally abolished in 1978. Certain other institutional measures were also taken about the same time to promote private sector. Dhaka Stock Exchange was revived and re-activated. Investment Corporation of Bangladesh was revitalised and its activities were geared up for providing equity finance and under-writing facilities. Special fiscal incentives and concessional tariff rates on imported capital machinery were offered to encourage export-oriented industries and dispersal of industries to

the less developed areas. Further, in order to attract foreign investments, the Govt. enacted the Foreign Private Investment (Promotion and Protection) Act, 1980.

In 1972-73, the industries sector could contribute only 6.41 p.c. of the GDP which over the years, got enhanced to 10.61 in 1980-81 ; in 1982-83, just before the Martial Law, this share came down to 10.18 p.c.

Private sector's response to various liberal policies and promotional measures, particularly in the area of small, cottage and rural industries (which employ 75 p.c. of the total industrial labour force and contribute about 37 p.c. of the total value added in the industries sector) taken through the Small Industries Corporation, was very encouraging as was demonstrated by the sharp rise in the amount of investment sanctioned, - from about Tk.9 crore in 1973-74 to Tk.434 crore in 1979-80. While the total investment sanctioned for the private sector during the period ('73-'80) stood at Tk.1036 crore, the actual investment is estimated at Tk.430 crore. Out of 4059 industrial units sanctioned during this period, 2323 units went into operation, 569 units were in the process of being installed and 1167 units were at various stages of implementation.

During the period from July, 1980 to June, 1982, further improvement in policy environments for private sector investment were effected. For example, in July, 1980 cotton textile mills upto 12500 spindles each and sugar mills with an effective crushing capacity of 200 tons per day were opened to private

investment. In the same financial year(1980-81), ~~another~~ another important decision was to allow the private commercial banks to operate alongside the nationalisation commercial banks. Yet in another step, an Industrial Promotion and Development Company was set up in Nov., 1981(Bangladesh Govt.'s share in the equity is 30%) to promote industrial growth in the private sector including foreign private investment.

Privatisation of the economy starting in a feeble/lukewarm way in 1974-75 gathered full momentum in the later half of 70s, but fundamental policy change came in 1st June, 1982 when the Govt. announced the New Industrial Policy, NIP for short, which opened up most of the sectors of industries to private investment, while limiting the public sector to basic, heavy and strategic industries. The main objectives of the NIP are to :-

- i) expand the manufacturing sector with increased participation of private sector ;
- ii) limit the role of public sector to the establishment of basic, heavy and strategic industries ;
- iii) encourage optimum utilisation of existing capacity including measures for balancing modernisation and replacement(BMR) ;
- iv) encourage investments to move away progressively from 'assembly' to intermediate/basic manufactures ;
- v) protect and promote local industries by reasonable tariff measures and/or banning imports where there is adequate domestic capacity ;
- vi) limit the growth of investments/industries having monopoly character;
- vii) improve the efficiency and profitability of public sector enterprises by cutting down overheads, reducing wastage and loss, increasing productivity of labour and capital and toning up management ;
- viii) promote export-oriented industries ;

- ix) encourage efficient and economic import substitution ;
- x) make extensive and effective use of local resources, skill and know-how and maximise indigenous manufacturing content as quickly as possible ;
- xi) promote geographical dispersal of industries on economic grounds ;
- xii) encourage linkage between large/medium and small industries ;
- xiii) ensure that quality and price of locally manufactured goods is maintained at a reasonable level ;
- xiv) create additional productive employment opportunities in the rural areas through promotion of rural and cottage industries ;
- xv) develop indigenous technology base and encourage judicious application of appropriate technology.

The main features of the NIP are :-

- 1.(i) Six basic sectors were classified as the Reserved Areas for the public sector. These are :-

- * Arms and Ammunition and allied Defence Equipment.
- * Atomic Energy.
- * Air Transport.
- * Tele communication.
- * Generation and Distribution of electricity(excluding rural electrification by Palli Bidyut Sanity).
- * Forest Extraction(mechanised).

- (ii) Thirteen sectors were placed in the concurrent list where both public and private investments were admissible, jointly or separately. The Concurrent List covered :-

- * Jute industry(sacking, hessian, carpet backing)

- * Cotton textiles(excluding handloom, power-loom and specialised textiles).
- * Sugar.
- * Paper and Newsprint.
- * Iron and Steel(excluding re-rolling Mills)
- * Shipbuilding and Heavy Engineering.
- * Heavy Electrical Industry.
- * Mineral, Oil and Gas.
- * Cement/.
- * Petro-chemicals.
- * Heavy and basic chemicals and basic pharmaceuticals.
- * Shipping.
- * Appliances and equipments for telecommunication service.

In suitable cases, management could be given to private parties with minority share-holding while majority of shares was held by the sector corporations.

(iii) All sectors/industries not included in the Reserved List would be covered under the Industrial Investment Schedules.

2. To protect and promote local industries, import of certain industrial goods were banned(PVC compound shoe grade, electric bulb upto 100 watts, ceiling fan, lock, dry cell battery, etc.)

Besides, prior to procurement of any goods from abroad, Govt. Departments/Corporations were required to obtain the first right of refusal certificates from the Ministry of Industries about non-availability of domestic manufactures.

3. The Investment Schedules(Revised Industrial Investment Schedule for large and medium-scale industries, and the Small Industries Schedule for the small and cottage industries) were

improved and simplified showing broad allocation for each sector, the number of sub-sectors being reduced from existing 193 to 139 and sub-sectoral allocations being aggregated.

4. To help the prospective investors to decide on the area of investment, the Deptt. of Industries, IACB, as well as the financing institutions would prepare project profiles and briefs.
5. Information base for furnishing immediate industrial information to the investors regarding demand, sanctioned capacity, production etc. was to be created.
6. To simplify the sanctioning procedures, certain measures and policies were decided upon ; for example--
 - (a) the list of free sectors where no permission of the Govt. would be required to set up industries was largely expanded ;
 - (b) a time-limit for sanction of industries by the various agencies concerned, i.e. D.G. Industries, financing agencies, Investment Board was prescribed ;
 - (c) a time-limit of loan disbursement and a limit to the total amount of sanctions that could be granted by financing institutions at any point of time were set ;

- (d) sanctioning powers of BSB and BSRS were enhanced to facilitate speedy sanctions and the sanctioning powers of various bodies (DGI, BSB, BSRS, Krishi Bank, BSCIC, Commercial Banks) were further decentralised to the regional offices ;
- (e) for importation of raw materials and machinery, the licensing procedures were simplified ;
- (f) debt-servicing conditions were improved including concessional rate of interest for export industries and for those set up in less developed areas ;
- (g) all investors would be provided with 'one stop service' facility regarding processing of projects, acquisition of land, arrangement for power/gas, formation of company, authorisation from Controller of Capital Issues, issuing of ad-hoc licence for raw material import, etc. ; an Investment Assistance Unit in the office the DGI would be set up for the purpose and its work would be supervised and facilitated by two higher bodies, namely, the Working Committee and the High Powered Facilities Board. For sorting out similar problems at the regional level, a Facilities Coordination Committee would be set up in ~~each~~ each District with the D.C. as its Chairman.

7. To encourage increased domestic production and

exports, some additional incentives were to be provided to the manufacturers and exporters.

These are : rebate in excise duty on the additional production over the 100% capacity, and rebate of income tax for increased export earnings, etc.

8. To promote regional development, the country was redefined into developed and less-developed areas (instead of the existing three categories) for preferential fiscal and monetary incentives for the sake of administrative simplicity and operational efficiency. Duty on import of capital machinery is 15 p.c. ad-valorem for developed areas and 2.5 p.c. in the less developed areas. Concessionary duty of 2.5 p.c. for import of machinery is also allowed for industries to be set up in the BSCIC industrial estates and for export-oriented industries using 70 p.c. or more indigenous raw materials, irrespective of location. Besides, tax holidays for 5 and 9 years are given for industrial undertaking in the developed and less developed areas respectively. Further, the debt-equity ratio for projects in the ~~less~~ less developed areas would vary from 75-25% to 80-20%.

9. For the first time, the need for establishing / developing linkages between the big and the small industries was recognised. Under the contemplated arrangement, the small industrial units could act as the sub-contractors to the bigger ones. This division of labour would lead to specialisation, cost-effectiveness and distribution of income.

10. Special emphasis was given on the development of rural and cottage industries. A major effort in this direction would be to re-activate the traditional handicrafts and new innovative cottage industries. Handloom, sericulture, hosiery rural agro-based industries would receive special attention. For this purpose activities of BSCIC would be strengthened in all respects.
11. For export-oriented industries, a number of facilities and incentives were provided, such as : commercial banks would provide upto 90% requirement of working capital against irrevocable L.C. ; DFIs would schedule repayment of liabilities on a liberal basis ; adoption of a system of notional payment of import duty and sale-tax for export industries ; expanded facilities in export performance licensing in case of some exportable items, interest discount on export credit etc. Later in July, 1973 Exchange Rate Fluctuation Burden Absorption Scheme (BFAS) was introduced to protect foreign currency loans against the risk of exchange rate fluctuation as well as to provide relief to the existing borrowers of long term foreign currency loans from the burden of adverse impact of exchange ~~rate~~ rate fluctuations.
12. To attract local and foreign investment in a big way, the EPZ would be reactivated and ~~ix~~ liberal terms and incentives would be made available to foreign private investment including tax holiday and exemption from customs duty.

13. Vigorous steps would be taken to develop skill of workers, technicians and staff both in the public and the private sector. The existing training institutes would be utilised for the purpose. For providing investment counselling and management training to the existing and the prospective entrepreneurs, the work of IACB, BMDC would be strengthened and expanded.

14. Foreign private investment would continue to be encouraged particularly in joint ventures, in new enterprises requiring specific foreign technology, making use of natural resources and having import-substitution and export potential. To expedite the process of sanctions of foreign private investment a Foreign Investment Cell was set up in the office of the Head of the Govt. A National Committee for Industrial Development has recently been constituted with the President as its Head for consideration of investment policies.

The NIP put a lot of emphasis on improving the operating efficiency and profitability of the public corporations also, by reducing overheads and wastage, toning up management and improving productivity. The following measures were mentioned for the purpose :-

1. There should be delegation of more powers to the enterprises, once their production targets, wastage - ratios, etc. were fixed on a rational basis. Corporations and Ministries would then monitor their performance through a good MIS ;

2. The Corporations should have an economic and effective size ; for this, abandoned units now under corporations management might be disinvested in a phased manner. Units belonging to the corporations might also be transferred to the private sector if these proved to be unviable for various reasons ;
3. Upto 49% shares of the enterprises managed by the Corporations would be unloaded for public subscription or operation by the ICB ;
4. Management of big and sick enterprises could be contracted out to suitable management firms ;
5. Corporations were authorised to adjust selling prices of their products (except for some critical and monopoly items in respect of which prior Govt. clearance would be necessary) upto 10 p.c. of the existing price ;
6. Bangladesh - owned jute and textile mills would be returned to their former owners.

From the discussions above, it will be clear that although in the initial years after liberation, Govt. policy favoured the growth of the public sector most, a significant change began taking place in the investment policy of the country from mid 70s. It was felt that initiative, drive and energy of individuals should be given greater opportunity to flourish and

contribute to the economic development of the country. Accordingly, industrial policies got changed in favour of the private sector the scope of which was, earlier, restricted to small and cottage Industries only. Such changes including virtual elimination of investment ceiling, drastic reduction in the reserved list, expansion of the free list, enactment of law protecting foreign investment, withdrawal of the nationalisation option, disinvestment of numerous taken - over industrial units, introduction of special fiscal incentives for investment, reactivation of the Stock Exchange, revival of the ICB for undertaking public issues of shares and to provide bridge finance to private industrial units, simplification of sanctioning and loan disbursement procedures, etc. In the small and cottage industries sector also promotional measures like offer of industrial plots with requisite infra-structural facilities, counselling and extension services, training and marketing supports, supply of inputs and credit under special programmes were taken.

Keeping in with the policy changes, the allocation of fund to the private sector had also kept changing as is evident from the successive plan figures. The allocation to the private sector was 11% under the First Plan ; it was raised to 16% under the TYP and further 35.5% under the SFYP.

On the disinvestment side, since 1980, 285 more industrial units including 33 Jute Mills and 29 Cotton Mills have been given over to the private sector and as many as 81 units are now under process of disinvestment.

The liberalisation of industrial policies had already created some favourable impacts on private investment. Private sector's response to the active role it was called upon to play over the years has been good, as demonstrated by the following table :-

	Table	Taka in crore	
		First Plan (1973-78)	TYP (1978-80) SFYP (1980-85)
(1) Plan allocation (at base year prices)	503	600	6100
(2) Investment (at 1972-73 prices)	436	420	1772
(3) Average Annual Investment (at '72-'73 prices)	87	210	354

(Source : TFYP document)

The table demonstrate a very significant growth in private investment due to expansion of opportunities for private investment, grant of various incentives as well as procedural improvements. During the SFYP, ~~main~~ industries sector absorbed about one-sixth of private investment against over one-fifth in the previous plan period inspite of the fact that per annum investment doubled over the TYP and increased five fold over the first plan in nominal terms. Private sector's good response was evidenced also by the amount of investmentsanctioned as already stated earlier,- for about Tk.9 crore in 1973 to 434 crore in 1979-80 ; while the total investment sanctioned during this period('73-'79) stood at Tk.1036 crore, the actual investment is estimated at Tk.430 crore ; out of 4059 industrial units sanctioned, 2323 units went into

operation, 569 were in the process of being installed and 1167 were at various stages of implementation.

The position of the sanction of investment in the subsequent 5 years of SFYP is also given below :-

Year	Unit sanctioned	Investment involved.	Taka in crore	
			Units coming into operation.	investment involved
80-81	1740 (1000)	668 (260 FE)	1116	344
81-82	607	288 (112 FE)	403	106
82-83	636	256 (188 FE)	349	93
83-84	2505	1118 (473 FE)	1183	263
84-85	918	479 (241 FE)	30	7

Since independence, as many as 109 foreign investment industrial units have been sanctioned involving an investment of Tk.414 crore ; from July, '82 to to-day, about 64 units have been sanctioned, the amount of investment for these units being 285 crores. uptill now, 36 units(17 upto June, '82 and 19 thereafter) having an investment of Tk. 96 crores, have gone into operation.

In the case of small and cottage industries, investment sanctioned, under SIS(Small Industries Schedule). however, fell short of allocation during 1982 - 85 period as may be seen from the fact that as against the provision

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of Tk. 400 crores, investment sanctioned amounted to roughly Tk. 330 crores only.

On the EPZ front, upto June, 1985, investment of Tk. 53 crores were sanctioned for 24 industrial projects, out of which 7 projects (including 5 garments industries) were implemented at a cost of Tk. 20 crores including F.E. component of Tk. 19 crores roughly; these industries created employment opportunities for about 1772 Bangladeshi.

During the first half of 80's, performance of the public sector was also not satisfactory for various reasons; in general, target for out-put remained unfulfilled in all the major industries by about 20 to 30 p.c. except in steel and sugar where short fall was even much bigger. In the SFYP, the public sector was allocated Tk. 1390 ; against this, actual expenditure was Tk. 955 (both in 1979-80 prices); short fall thus was about 31% of the allocation. There was also a substantial short fall in the private sector investment; total private investment was estimated at Tk. 1124 crore at current prices against the allocation of Tk. 1769 crore at 1979-80 prices which was about 48.3 p.c. of the plan allocation; this was partly due to the fact that the loan recovery problem forced the DFIs to suspend credit lines.

It will appear from discussions above that although over the years after 1975, Govt. policies have been to liberalise investment in the industries sector, the sector could not look

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up in the desired manner. There are various reasons for this. In the present scope of this paper it will not be possible for me to go into the details of these problems; however, here I may only try to identify some of them. The major problems of industrialisation in our present circumstances, in my view, are : inefficient management; low level of technical skill and capability; lack of innovative and risk-taking entrepreneurship; irrational tariff system or tariff anomalies; lack of aggressive salesmanship; low capacity utilisation; low labour productivity; labour militancy; irrational import policy; over-capitalisation (resulting from delayed implementation of projects); choice of inappropriate technology; dependence on aid; shrinking market (domestic and external, due to low income and visible and invisible imports and recession in world trade and protectionism); scarcity of capital and liquidity, inadequate allocation of resources including F.E., poor and inadequate infrastructure. Our industrial policies must address these problems, if they are to create real impacts on the industrial sector.

Future industrial policies of the country may also take into consideration the following issues :-

- * Working out devices to stop brain-drain, particularly, of national experts;
- * marking productive use of foreign remittances ;
- * establishing effective linkages between the small and the large-scale industries for sharing the manufacturing process ;

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- * making progressive manufacturing binding for all assembly - plants ;
- * giving more emphasis an export-oriented and import-substitution industries ;
- * strenthening R & D efforts in both public and private sectors ;
- * pursuing a more enlightened labour policy(to provide for collective bargaining, suitable training and participation of labourers in the management of enterprises, etc.) ;
- * decentralising decision-making and financial management.

Notwithstanding difficulties, the basic objectives of the NIP have been substantially achieved during the last three years.

The most important achievement of the NIP has been the creation of a positive investment climate in the country for the private sector. It is hoped that the private entrepreneurs would come forward with patriotic zeal to take full advantage of the liberal policies of the Govt. and work for rapid industrialisation of the country along with the public sector.

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Strategies For Mineral Resources
Development in Bangladesh

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STRATEGIES FOR MINERAL RESOURCES
DEVELOPMENT IN BANGLADESH.

Before we discuss, the Strategies for Mineral Resources Development in Bangladesh, we need to briefly talk on the GEOLOGICAL SET UP OF BANGLADESH.

Bangladesh is underlain by sedimentary rocks ranging in age from PERMIAN(225 M.Y. ago to 300 M.Y.) to pleistocene(10,000 yrs. ago) and Recent. The rocks have been laid down on a floor of igneous and metamorphic rocks(Basement complex of Archean Era 570 M.Y. ago).

The Archean rocks underlie the northern parts of Rajshahi and Bogra Districts and the whole of Dinajpur District at depths ranging from 600 to about 1000 feet. In Rajshahi and Bogra the continental PERMIAN rocks, commonly known as GONDWANA overlie these rocks.

During the PERMIAN period, many low lands, similar to the present day swamps, were formed either due to erosion or to structural readjustments and in these basins were deposited enormous quantity of vegetal matter, washed down by the streams from the surrounding luxuriant forests. Later during the MESOZOIC ERA (136 M.Y. ago), these vegetal matters were covered by more continental deposits and were protected from denudation. Due to the pressure of the overlying sediments and the subsequent Himalayan Orogeny these vegetal matters were converted into coal.

Bangladesh is formed by the Indo-Gangetic flood plain alluvium.

The use of mineral resources has been instrumental in raising the standard of living of mankind. The names of minerals and their products have been used to christen various eras of civilization, such as STONE AGE, the BRONZE AGE, the IRON AGE, and the NUCLEAR AGE. The sophisticated world of today is largely the result of the enlarged use of minerals, whether it be as fertiliser for food; coal, petroleum, natural gas and atomic energy as sources of power; or countless other necessities of life, like automobiles, aeroplanes,

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This should always be preferred to the conservation of a mineral resources by non exploitation. Equally stimulated will be the professional knowledge and the training of technical personnel associated with all aspects of the mineral industry. To them will be the challenge of finding new resources to replace those that have served a useful purpose.

Often the question is asked - how one does plan for, and achieve, the most effective use - and the best exploitation of mineral resources ? Well, there is no single or simple answer to this question, but there are two fundamental steps that can be taken to help achieve that objective. The FIRST is to learn to know what and where are the resources. The SECOND is to encourage the development of a balanced program of resource exploitation and utilization.

With respect to the FIRST step, one of the most significant things a Government can do is to strengthen its facilities for technical operation and training.

Regarding the SECOND step a great deal can be accomplished by encouraging the use of private capital. No Government, regardless of its size and resources, can effectively do the entire job(I make special reference to the Jamalganj coal Mines, Jaipurhat Limestone and Cement Works Project, Bagalibazar Limestone Mining and Cement works, Sylhet, Developing Coal resources of Bangladesh - the most recent is Barapukuria, Dinajpur). Large capital investments are often necessary to discover, extract, process, and transport minerals. Such investments are usually beyond the Government's capacity. However, it is essential to have laws and regulations designed to ensure safety and sound extraction policies, laws that restrict the effective use of private capital in prospecting and mining will surely be restrictive also to ECONOMIC Growth. In their place should be laws that stimulate the initiative of private capital by providing fair and worthwhile incentives(Particularly in respect of oil, coal & limestone.

KNOWN MINERAL RESOURCES

Although Bangladesh geological environment consists of recent deltaic sediments with no rock out crops, the mineral deposits include

a) Coal (b) Peat (c) Limestone (d) white and other aluminous clay (e) Glass sand (f) heavy minerals like zircon, rutile, leucosene & ilmenite, monazite and magnetite (g) Hard rock/grevels (h) Natural gas.

(a) Coal.

Large deposits of coal estimated at 1053 million tons (M/S fried Krupp Rohstoffe of west Germany) are known to exist in the Jamalgonj-Paharpur area. It is Gondwana coal of Per mian-age bituminous type similar to Raniganj coal of India. The thickness of the coal seam: maximum is 42 metres and the minimum is 1.5 metre. There are six workable seams. However the deposits lie at a depth of about 900 metres, which makes exploitation both difficult and expensive. The Rajshahi area also has proved reserves of deep-lying coal which are difficult to mine. Hence Bangladesh depends for its requirements of coal, estimated at 1.8 million ton a year on imports mostly from India, which has been the traditional supplier. In 1984-85 it imported some 120,000 tons of high grade steam coal from India. About 10,000 tons of special low volatile coal was imported from India. Some 90,000 tons of steam coal was also imported from China, Indore-sia and South Africa. The figure is quoted here to show how much foreign exchange is used for importing coal, in the absence of implementing Jamalgonj coal project.

In terms of energy value Jamalgonj coal exceeds that of the proved natural gas resources of the country. The urgency and importance of development of this resource, particularly for the fuel hungry less developed western part of the country can not be over emphasised. Geological survey located coal at a depth of 615 feet at Barapukuria area P.S. Parbotipur, Dinajpur District. Further drilling is being continued to determine the extent, reserves etc. of the deposit. If the deposit extends further, surely it will open up new horizon in the field of Energy requirement.

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(b) Peat.

Peat occurs in marshy areas of most of Bangladesh, but the two largest deposits are those of Baghia and chanda beels of FARIDPUR district and Kola Mouza of KHULNA district.

Baghia and chanda beel : The peat deposit covers an area of 320 sq.k.m. The reserve is on wet basis-875 million tons and on dry basis about 125 million tons.

Kola mouza (Khulna); The deposit lies 5.6 km. north of Khulna and occupies an area of about 24 sq.km. in the Kola Barasat depression. The estimated reserves of wet peat are 56 million tons and that of dry peat are 8 million tons.

The calorific value of the peat both from Faridpur and Khulna is 5,630 BTU/lb.

Peat also occurs in the Moulavi Bazar and Sunamganj district. The reserves are on the wet basis 14.7 million tons and 8.9 million tons respectively. On the dry basis it comes to 2.1 million tons and 1.2 million tons respectively.

The peat fields are good rice growing areas and presently studies are being carried out to find out if extraction of peat and subsequent reclamation of the area for rice growing/agriculture is Economically feasible. Peat can be used in thermal power station, Fertilizer Factory & briquetting.

(c) Limestone= As a developing country Bangladesh needs lime stone for the manufacture of cement, lime and aggregates.

Surface or near surface deposits of limestone occur in a narrow belt along the northern border of sylhet district and a small deposit of shelly (coquina) and coralline limestone occur in St. Martin's Island. The Sylhet deposits are, Takerghat- Bangherghat - Lalghat where the reserves upto a depth of 500 feet are estimated as 14 million tons. On average, 60, 000 tons of lime stone from Sylhet deposit are being mined per year for the Chhatak Cement Factory.

A thick limestone bed (average thickness about 80 feet) occurs at a depth of about 1700 feet from the surface at Jaipurhat, Joipurhat district and is suitable for cement manufacture and use industries. A project (The Jaipurhat limestone Mining and cement works) of mining 1.7 million tons of limestone and production of 1.0 million ton of cement there of is under implementation. Mineable resources in the 2.5 Square miles proposed mine are, are estimated at over 100 million tons. The Saudi fund for Development invested some years ago a sum of \$US 30 million for the limestone and cement project in Jaipurhat.

A bed of good quantity lime stone extending over twelve miles in an east - west direction attains a maximum thickness of 700 feet under an over burden varying D-200 feet near Bagali Bazar, a village 10 miles west of Tekerghat under Tahirpur Police Station of Sunamganj District. In an area of 1500 feet x 700 feet the reserve is estimated at 40 million tons.

Limestone is the basic raw material for cement. Production of cement in Bangladesh is too little amounting to 90,000 tons only by the Chhatak Cement Factory. Another major plant, the Chittagong cement factory was working below capacity. Cement output in 1983-84 totalled 320,000 tons. On the other hand the present requirement of cement in the country is about 1.5 million tons. Per capita consumption is 30 lbs. One of the lowest in the world.

Bangladesh purchases limestone from India for using in various industries. viz. Steel Mills Karnafully Paper Mills, Sugar Mills, for want of local limestone. It is imparative to find out ways and means to take out local limestone for economic growth as well as creating job opportunities.

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(d) White clay and other aluminous clays.

The white clay is found in the following areas:-

Bijoypur: The area lies between Bhedicura and Gopalpur villages near northern frontier border of Mymensingh district. The BIJOYPUR white clay is 8 to 14 feet in thickness and the reserve is about 23,000 short tons.

White clay is also present in the north of BALIAJURI which is 128 km. west of Bhedicura in Mymensingh district. The average thickness is 10 feet and covers about 13 sq.miles.

White clay is located at PATNITOLA (about 20 miles from Santahar) in Rajshahi district. It occurs at a depth of about 1300 feet with average thickness of about 29 feet.

White clay is used for ceramic industries refractories paper industries, rubber industries etc.

(e) Glass Sand:

The Glass sand deposits have been located in Sylhet District, Mymensingh District and Comilla District.

Sylhet District:- Deposits of Silica sand occur near Shahjibazar, Chhatian, Noyapara and Manikpur in Sylhet, the first three localities are small, close to Dhaka-Sylhet Railway line and are located at about 64 Km to the south of Sylhet. Manikpur is a small village 3.2 Km to the north of Chhatian. The Silica sand occurs in the alluvium which consists of brown, yellow and white fine grained sand. The thickness varies from .6 to 2.10 metres and occupy an area of approximately 12.80 Km. Reserve have been estimated at 1.50 million tons. Silica sand deposits ^{are} also found in Kulaura area of Moulvi Bazar District, Cover an area of 1 Km. and estimated reserve is 0.20 million ton. A good quality glass sand bed was also encountered in a drill hole in Lakmachara-Lalghat area of Sunamganj district.

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Mymensingh District: The silica sand deposits of Balijuri Mouza are located about 48 Km to the north of Jamalpur District. The area is located in the extreme southern slope of the Garo-Hills and is about 60 metres above sea level. The silica sand is a part of the recent Piedmont alluvium and occurs as lenticular pockets. It occurs in an area of .30 Km and the reserve is 0.20 million ton .

Comilla District: Glass sand deposit have been located in Chaudagram area. The deposit occur as lenses of various shape and size in the recent Piedmont alluvium. The area is 16 Km long strip and the estimated reserve is about 0.40 million ton . Glass sand or silica sand are used for manufacture of glass wares, abrasives and used in industries, that produce mostly medium to poor quality glass wares.

(f) Heavy Minerals.

Beaches are the coastal regions between high and low tide marks. Beach deposits are formed by sea action. Beach placers of zircon, rutile, leucoxene, ilmenite, monazite, magnetite and other heavy minerals are found along the sea beach all along from Chittagong upto Teknaf. The placers consist of sand containing 10 to 30 percent heavy minerals. The principal placers are concentrated at ten localities along the Bay of Bengal. Coastline. Each placer is thousands of feet long.

Small concentrations of heavy minerals are also present on the western coastline of St. Martin's Island.

Heavy minerals have enough strategic as well as economic utilization.

The Atomic Energy Commission is doing work on the Heavy minerals...

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(g) Hard Rock and Gravels:

Hard rocks and gravels have been in short supply in Bangladesh. These are required in various sizes and shapes for flood control, town protection, construction of dams, bridges, embankments, river training, railway ballast, construction of heavy roads and building etc.

The present sources of hard rock and gravels in the quantity available is inadequate and the shortfall is met through import from India at a very high price.

The past consumption of aggregate and boulders was as under:- (Total Cft.million)

	<u>Boulder</u>	<u>Aggregates Rly.Road.</u>	<u>Aggregates General</u>	<u>On low Hypothesis</u>	<u>On high Hypothesis</u>
1972-73	2.50	5.00	9.50	17.00	21.00
1973-74	2.00	3.00	14.00	19.00	25.00
1974-75	1.50	9.50	16.00	22.00	31.00

The future estimated consumption may be seen from the following table:-

<u>Y e a r</u>	<u>Course aggregate</u>	<u>Boulders</u>	<u>Total</u>
1981-82	45.00	15.00	60.00
1982-83	48.60	15.00	63.60
1983-84	52.70	15.00	67.70
1984-85	56.60	15.00	71.60
1985-86	60.70	15.00	75.70

The deposit of Hard Rocks of Ranipukur in Rangpur District was discovered in 1966. Large quantities of hard rocks(igneous and metamorphic) are present at about 500 feet below the surface in the Ranipukur area of Rangpur district. These rocks when mined can be used for construction of roads, bridges, dams, heavy buildings and many other engineering structures. Rocks at lower depths indicate the possibilities of finding economic mineral and metallic Ore deposits along the fault and fracture zones. The basement complex warrants a thorough search.

(h) Natural Gas

Natural Gas is the major source of Energy, the main consumer being the Fertilizer Industry. Reserves of Natural Gas are estimated at over 250 billion m^3 , while probable resources are in the region of 600 billion cubic metres. Natural Gas is used as feedstock for fertilizer production at FENCHUGANJ and GHORASHAL. About 130 million cubic feet of gas per day are consumed by these two fertilizer plants with the addition of five gas wells at Bakhrabad field and one each at Kailashtilla and Kamta fields, the number of producing wells has gone up from 10 to 17 and the production capacity has increased to over 13.1 million m^3 per day. To distribute the output from the Titas and Bakhrabad gas fields, a gas transmission and distribution Project funded by a concessional loan of \$ US 45.6 million from the Asian Development Bank is in an advanced stage of construction. The South East Bangladesh Gas Transmission and Distribution project may save about \$US 248 million in foreign exchange by helping to reduce petroleum imports.

A proposal to export 30,000 million m^3 of gas to India by pipeline has been hanging fire for some time. Natural gas, apart from providing feedstock for four fertilizer Units, is also used to fuel a sponge iron plant. Its methane content is used to produce Methanol in a \$ US 215 million project.

Marine Mineral Resources:

With the tremendous increase in the extraction and consumption of minerals, in this century, the known land resources are virtually on the verge of exhaustion. Obviously we must look for new, long lasting resources in the hitherto unexplored and unknown depths of the Bay of Bengal. With nearly inexhaustible resources of many minerals the sea answers the call in affirmative. As a source of minerals the sea has been but little exploited relative to its potentials which are very high indeed.

Drilling was done in the off-shore by foreign based oil exploratory companies. Instead of hitting oil, gas was found, a little off Kutubdia Island. As and when this gas field is developed economic activities start in and around.

Possibilities of recovering minerals from the sea area:
Manganese (Mn), Gold (Au), Phosphorite, Glauconite (K_2O), Barium Sulphate ($BaSO_4$), Calcareous and Silicious Oozes (a calcareous) Ooze
Globigerina for instance may be a good substitute for limestone in Portland Cement, because of its high CaO -rather $CaCO_3$ content, as high as 93%)

Systematic plans are to be drawn may be long term, for research and exploratory work on the off-shore. The job may be costly but surely will pay in the long run.

Water (H_2O)

My discussions of mineral resources today would be incomplete if I failed to say something about H_2O , the unique industrial and social mineral. It is unique because of its absolute requirement in every economy, no matter what its position on the evolutionary scale of development. In some very advanced economics, like U.S.A. H_2O has become a critical problem in terms of its supply, its quality, and its disposal in terms of its supply, its quality and its disposal when used. In our country, its absence or the extent to which it can be supplied is the critically limiting factor that controls man's activities whether they be agricultural or industrial. It is imperative that H_2O be included in all programs of mineral resources development.

POSSIBILITY OF OIL DISCOVERY IN BANGLADESH

Discovery of oil still remains a cherished goal for Bangladesh. Although people associated with exploration are still optimistic about the possibility of striking oil, but the results of more than 60 wells drilled in onshore & offshore areas produced only gas with condensate but no oil.

This has given rise to the question among people in general and to a section of professionals in particular, whether the chances of discovering oil is a myth or a reality.

The state owned Petrobangla is responsible for exploration and development of oil and gas. The Petrobangla has gone deep into the matters to find out a reasonable answer to the question. In the process, all the drilling data, well logs and seismic section were studied and analysed. Numerous correlation schemes were prepared on the basis of lithological, well logging and seismic data to delineate the possible reservoir rocks. They were further corroborated with available paleontological and palynological data.

From the analysis of the data, it is believed that the Eocene sedimentary sequences, particularly the Disang shale (Kopili shale equivalent) are possibly the source rocks for the hydrocarbon generation and that the Oligocene sandy sequence i.e. the Laisong Formation are most probably oil-bearing, which is yet to be opened by a drill hole.

Construction of Miocene thickness maps (Boka Bil + Bhuban formation) and paleo-tectonic analysis indicate the general path of oil migration towards the Tripura & Surma high, where considerable amount of gas with condensate has already been discovered in Titas, Bakhrabad, Feni, Chattak, Sylhet, Beani-Bazar and Kailas Tilla wells. Some of these wells, according to the latest correlation scheme shall enable to open up the most prospective Oligocene sands within a drillable depth of 4.5 to 5 Km. and confirm the presence of oil accumulation.

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Some years ago a study undertaken with Soviet assistance by the State-owned Petrobangla, which is responsible for exploration and development, indicated a bright possibility of oil reserves, but resources constraints have prevented progress. Shell Oil, which was involved in oil prospecting under production sharing agreement, completed a seismic survey in the Chittagong Hill tracts. Petrobangla also explored for oil on its own with a Rumanian rig in the Sitakund area. Petrobangla believes there is considerable oil and gas in the south-west delta area.

EMPLOYMENT OPPORTUNITY

Among the discovered mineral resources of Bangladesh only glass sand white clay & limestone are being exploited. However, the exploitation is usually in small scale. So employment in those mining areas are very small. Employment in the industries related to these minerals are not very much.

However, there is a bright scope of large scale employment in the mining areas of limestone mine site in Joypurhat area, hard rock mine in Dinajpur District & coal in Bogra-Rajshahi & recently discovered coal in Dinajpur District.

In future it is expected that there are also bright scope of large scale employment in other fields of mineral resources which have been discovered.

When all the known mineral resources of Bangladesh will be exploited then related industries will be expected to develop & will have employment there.

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POPULATION CONTROL PROGRAMME IN BANGLADESH

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CHAPTER - I

INTRODUCTION

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Bangladesh a land of 55,958 Squire miles, has since ancient times, been known to the out side world for its glorious history and tradition and its statagic geographical setting on the Bay of Bengal.

Its present estimated population of 100'5 million is an admixture of different elements from primitives races to Arabs, Pessians, Turks and Afgans. Traces of these various layers of culture are still to be found in the different religious socio-cultural practices. The major religious groups are the Muslims forming 85 percent of the population and the remaining 15% includes the Hindus, the Christians and the Buddhists. A small number of tribal people, mostly in the south-eastern, north-eastern and northern parts still follow their quaint way of life.

The mother tongue of the population with some phonetical differences is Bangla.

Before British Colonial rule Bangladesh was fabulously rich. It had exportable surplus in food grains. Its agricultural products rice, wheat, cotton and sugar - found their way into the ports of the South-East Asia and the Far East. Its Agar was in great demand in the Levant. Its textiles, including celebrated muslin, brought its shores merchants not only from Asia but also from far off Europe.

It carried on its maritime trade in ships built on its own land. Its ship building industry, especially the one located in the island of Swandip, off the Chittagong shore in the south, was so famous that the Ottoman Sultans of Turkey used to have their naval ships built here.

It had a high level of cultural development, particularly in religious philosophy under the Buddhist Kings in the eighth to twelfth centuries. Later under the Pathen Muslim Kings in the fourteenth and fifteenth centuries, literature, more particularly poetry, flourished under direct patronage. Its architecture, especially in the building of the temples and the mosques, still excites the admiration of the experts.

Travellers from Europe & Africa who visited Bangladesh in the fifteenth and sixteenth centuries spoke glowingly of its rich material and cultural life in their records of those times.

Two centuries of British rule, however, ended it all. The native enterprise of the Bangladeshies was stifled, their industries ruined and their agriculture was re-oriented to the production of raw materials for the British industries in the mother countries.

There was no appreciable change in the socio-economic condition of Bangladesh even in its over two decades of existence as a part of Pakistan after the British left in 1947. Thus discontent to a war of independence against Pakistan, and after a bloody armed struggle of nine months Bangladesh became independent on 16th December, 1971.

The existing socio-economic situation of Bangladesh presents a peculiar paradox of rich natural resources counterpoised by extreme economic poverty. Its climate is ideal for agriculture, but the current agricultural output is far below potential. Lack of irrigation facilities and fertilizers, use of primitive methods of cultivation, small size of land holding and the like are mainly responsible for it. Therefore, despite being an agricultural country, it has to import a substantial quantity of food grains every year.

As a result of poor yield of rice and other food crops over 80% of the population are below minimum caloric requirement. Per capita income of the country is US\$140 only.

Growth in the industrial sector has not kept pace with the increase in manpower. No less than One-third of the labour is either unemployed or under employed.

Malnutrition is widespread and takes a heavy toll of lives among women and children. Infant mortality rate, though declining is still 117 per thousand, while that of child mortality is 23 per thousand. The situation is further aggravated by lack of health facilities. As of 1980, there was one graduate doctor per 8181, one trained nurse per 33,333 and one hospital bed per 4390 population. Inadequacy of sources of safe water for drinking is one of the major reasons of death from diarrhoeal diseases, specially among the children, in rural areas. Only one tube well exists per 178 population.

Schooling facilities are extremely poor with the current literacy rate a little over 25%.

The growth of population in Bangladesh reveals the fast pace at which the demographic pattern is changing. In about 30 years time from 1951 to 1980 the population has been more than doubled. The 1981 census put the total population of Bangladesh at 89'9 million. It is growing at the rate of 2'4 percent resulting from a crude Birth Rate (C.B.R.) of 40 and a Crude Death Rate (C.D.R.) of 16 per thousand population. Now its population is not less than 100'5 million. If the present growth rate continues, Bangladesh is likely to have a population twice its present size in twenty eight years.

Between now and 2000 AD about 15 million persons will be added to aggravate further the existing labour force situation. The current rate of 30% unemployment is thus likely to remain unchanged. The man land ratio, which currently stands at 0'29 acre per capita, will shrink further.

If the population continues to grow at the current rate of 2'4% an 11'5 increase per annum of GDP would be necessary to reach the threshold per capita income of US\$700 by 2000 AD. With the poor internal resource base and heavy dependence on external assistance, this would be well-nigh impossible.

The country, therefore, has no choice but to continue its efforts to control the growth rate throughout the remaining part of the century to achieve Net Reproduction Rate (NRR) one by 2000 AD, as envisaged in its broad perspective plan for population control.

C H A P T E R IIPopulation Control Programme in the Past.

Historically Bangladesh Population Control Programme emerged through a series of developmental phases that took place during the last 30 years. The origin of the programme can be traced back of 1953 when a group of social workers and philanthropists, being aware of the grave prospect of uncontrolled population growth, spear headed the programme efforts in the private sector. Pioneers of this programme were Late Dr. Humaira Sayeed, Late Dr. Alauddin Ahmed, Late Dr. Mozharul Haque, Mrs Raisunnessa Haque, Dr. Md. Ibrahim, Mr. Alamgir M.A. Kabir, Mrs. Saida Waheed and Dr. Zarine Fazulboiy.

During the initiation phase, the major thrust of the programme was carried out by the Family Planning Association with nominal financial support from the Government. The effort was limited to the small scale contraceptive distribution services in urban areas particularly through hospitals and clinics. The major achievement of the programme during 1950's was the initiation of the programme itself, besides exposing it to public attention at a time when heightened religious fervour prevailed. The programme was able to generate some interest amongst the intellectuals and the Government circle and it facilitated, rather encouraged, subsequent Government action. The first phase activities lasted up-to 1959.

The Second phase of the programme started in 1960 with Government sponsored clinic-based family planning activities as a regular part of Health Services.

The Government set up a target of providing family planning services to 6.7% eligible couples and opened a family planning centre in every hospital and rural dispensary. Each centre was given a target to recruit 500 acceptors annually. In addition two Training cum Research Institutes were established in Dhaka and Rajshahi for manpower training and development. A Public Health Research Programme in Dhaka in 1960 and a Research Project in the Academy for Rural Development at Comilla in 1961 were undertaken with international assistance.

In the absence of field functionaries and without a sustained educational and motivational programme, the clinic based family planning services looked like islands in isolation. Never the less the efforts during this phase led to the formulation of population policy and a comprehensive programme for the next phase.

The third phase of the programme coincided with the Third Five Year Plan of the erstwhile Government of Pakistan. The Family Planning Programme was launched throughout the country as a priority programme with the goal to reducing the crude birth rate from 50 to 40 per 1000 live birth during 1965-70. Based on a concept of maximum administrative and financial autonomy, Family Planning Board was set up. Full time field staff and part time village organizers known as Dai (a female village mid-wife) were recruited and trained to provide motivation and service close to the door-steps of the rural people. A cadre of paramedic called Lady Family Planning Visitor was introduced to meet the shortage of lady doctors for family planning work particularly IUD insertion.

Excepting oral pill, all other non-clinical methods of contraception like Condom, Foam tablet, Jelly & Diaphragm and Clinical methods like sterilization & IUD were preached and practiced.

During this phase, monetary incentives were introduced for acceptance of clinical methods like IUD, Vasectomy and Tubectomy. Transportation cost to the acceptor and referral fee for the referrer of these methods were offered. Along with this, continued support from administration and top leadership was provided for implementation of the programme. Financial allocation for the Family Planning Scheme was on average Tk. 25 million annually during the period of 1965 to 1970. This allocation was ten times more than the allocation made during the previous era.

The impact of the Programme efforts was noticeable and measurable. Before 1966, knowledge of family planning was 6% in rural areas and 14% in urban areas amongst the eligible couples which increased to 52% in rural area and 72% in urban areas in 1969 as revealed in the National Impact Survey of 1968-69. But the contraceptive practice rate did not increase appreciably as only 3.9% of couples of reproductive age were using contraception at the time of the survey.

The programme then passed on to a transitional phase in 1971 amidst social unrest and political turmoil. The programme came to a standstill during the Liberation War of Bangladesh in 1971. During the interim period of 1971-72 and 1972-73 a good number of programme measures were initiated. The most noticeable and important steps which effected the policy and programme were the following :-

- (a) Administrative process for decision making was shifted from the autonomous Family Planning Board and the Council to the Ministry of Health & Family Planning.
- (b) Family Planning and Malaria Eradication Programme were integrated with Health at the field level.
- (c) Oral Pill was introduced in the Family Planning Programme as a method of contraception.
- (d) The provision of part time village level Dais was abolished.
- (e) MR programme got its roots during this period to ensure rehabilitation of effected women who suffered at the time of war of liberation.

During the transitional period, the programme however, could not get clear direction for making headway, Owing to massive relief and rehabilitation work, the tempo for family planning work was dampened. These trends were reflected in the performance level of contraceptive use. Acceptance rate of various methods of contraception for the period for 1965-66 to 1969-70 and 1970-71 to 1974-75 are shown below in table I & II

Table I

Number of acceptance of different methods of contraceptives during 1965-66 to 1969-70.

Year	I.U.D in number	Starilization in number	Condom etc. in thousand pices.
1965-66	96,000	5,000	13,634
1966-67	2,50,000	46,000	34,164
1967-68	3,50,000	2,53,000	65,824
1968-69	3,97,000	3,89,000	70,601
1969-70	2,72,000	3,14,000	59,802

Source : East Pakistan Family Planning Board Progress Report 1966-70

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Source : East Pakistan Family Planning Board Progress Report 1966-70

Table II

Number of acceptations of different methods
or contraceptives during 1970-71 to 1974-75.

Year	I.U.D in No.	Stariliza- tion in No.	Condom in thousand pieces.	Pill in thousand pieces.
1970-71	NA	NA	NA	NA
1971-72	1,1,597	350	3,549	-
1972-73	15,660	369	20,265	139
1973-74	27,590	1461	11,239	440
1974-75	50,391	19,171	9,282	1,282

Source : Directorate of Population
Control & Family Planning.

As it is evident, the period of three years from 1970-71 to 1972-73 was a transitional period with lesser performance activity and output. The Government during the first two years of post Liberation period attempted to reformulate programme policies and strategies to make it more effective and need responsive. The programme, however, did not pickup speed quickly because of the anomaly created owing to the merger of Family Planning & Malaria Eradication Programme with the Health Programme.

With the launching of the FFYP (1973-78) of Bangladesh, the programme stepped into the fourth phase of development from the transitional phase. The plan document advocated many conceivable civilized measure as acceptable to curb the high growth rate of population to keep the size on the smaller side of 150 million for sheer ecological liability of the nation.

The plan envisaged a moderate demographic goal of reducing the growth rate from the estimated 3% to 2.8% in five years. The plan also endorsed the Government policy of integration of Family Planning Programme with Health Services in respect of motivation, education and service delivery. In January, 1974, the Government launched the integrated programme with a big bang. It was for the first time that the Government officially tried to bring two opposite poles- Family Planning and Health, together under one unified direction and control, but with little success.

Within the broad frame work of the FFYP, 1973-78, a major reorganization took place toward late 1975. In August 1975, a separate Directorate of family planning and an independent Division of Population Control and Family Planning in the Health Ministry were created. This was the turning point for the programme to leap into the 2nd Part of the 4th phase. Along with this, MCH programme which was so long a part of Health Services was transferred to Population Control and Family Planning Division. A National Population Council, the highest policy making body, was constituted with President of the People's Republic of Bangladesh as Chairman and Ministers of the concerned Ministries as Member. A Central Co-ordination Committee was also formed with the Minister for Health and Family Planning as Chairman and Secretaries of the concerned Ministries as members to co-ordinate implementation and review progress of multi-sectoral population activities under different Ministries.

The period from late 1975 to 1980 was an era that witnessed a series of hectic activities in population field in terms of policy and programme measures. One of the significant actions taken during this period was the recruitment of full time male and female field functionaries i.e. Union Level 4500 Family Planning Assistants (FPA) and Ward level 13,500 Family Welfare Assistants (FWAs) on regular basis, to cause a thrust on the MCH-FP programme in rural Bangladesh.

In January 1976, the Government declared the rapid growth of population as the Number one problem of the country and attached high priority to the implementation of the population control programme. In June, 1976, the Government approved the National Population Policy. The new policy proposed to enlist 4.3 million eligible couples as continuous users of contraceptives in order to achieve the proposed targets of 2% growth rate by 1980. The policy also indicated the application of social, legal and economic measures to achieve the desired results.

Since 1976-77 family planning turned to be MCH-based multi-sectoral and community involved integrated programme. To provide MCH care and family planning services have institutional set up in rural areas, it was decided to establish Family Welfare Centres (FWC) at the Union levels and accordingly 79 FWCs were set up in pilot areas of five districts viz. Dhaka, Chittagong, Jessore, Rangpur and Tangail during 1978-80. In addition, involvement of Voluntary organization, social groups and religious leaders including youth and women was increased to broaden the horizon of contraceptive practice through a social movement.

The Programme measures during the Two Year Plan period included the following among others.

- (a) Structural reorganization and strengthening of family planning programme.
- (b) Integration of MCH and family planning services, improvement and expansion of service facilities both in urban and rural areas through the development of an appropriate service infrastructure.
- (c) Meeting the existing demand for family planning through efficient MCH-FP.
- (d) Creation of additional demand for family planning through extensive IEM activities.
- (e) Streamlining of procurement and distribution of supplies.
- (f) Development of MCH-FP manpower promotion of specialized skills and establishment of appropriate training facilities and supportive activities, like research, evaluation and service statistics.

Contraceptive performance recorded rise during the period 1976-80. Table III will show the number of acceptance in various methods.

Table III

Number of acceptors in sterilization, IUD and Volume of contraceptives used during 1975-76 to 1979-80.

Year	Sterilization in number	I.U.D in No.	Condom in pcs.	Pill in Cycle.
1975-76	48,915	77,840	45,62,045	59,43,055
1976-77	1,16,312	29,421	29,38,130	46,38,597
1977-78	77,365	40,564	54,47,199	74,87,316
1978-79	1,06,424	22,631	47,95,123	71,20,550
1979-80	1,98,782	21,801	48,65,051	62,27,651

Source : MIS Unit of Population Control Directorate

Financial allocation under ADP increased manifold by 1979-80 as compared with base year 1972-73 taka 50 million was the allocation under ADP in 1972-73, which rose to Tk. 590 million in 1979-80. The domestic resources allocation was on the higher side during the initial years, whereas during the later part, the ratio of external resources was higher, Picture is given below in Table IV.

Major donors namely USAID & UNFPA began to lend their supporting hand in 1974. The World Bank with its co-financiers namely NORAD, ODA, Australia SIDA and CIDA stepped into the field in 1975. Gradually their association and support began to increase in population activities. UNFPA under 1st Country programme cycles spent US\$ 10 million in population Control Programme, World Bank with co-financiers under 1st population project provided nearly US\$39 million and US AID provided about US\$30 million up-to 1980.

Table IV

ADP allocation to population control programme by
source of financing from 1972-73 to 1979-80.

(in Million Tk.)			
Year	Domestic Resources amount and 1%	External Resources amount and 1%	Total
1972-73	30 (60%)	20 (40%)	50
1973-74	40 (57%)	30 (43%)	70
1974-75	50 (63%)	30 (37%)	80
1975-76	80 (42%)	110 (50%)	190
1976-77	160 (73%)	60 (27%)	220
1977-78	170 (53%)	150 (47%)	320
1978-79	190 (40%)	280 (60%)	470
1979-80	220 (37%)	370 (63%)	590

Government efforts supplemented by NGO activities have produced encouraging results that are measurable in quantifiable terms. As evident from various national and subnational fertility surveys, dual recording system and analysis of census data, more than 90% of eligible couple were aware of family planning methods, 15'67 eligible couples had been using contraception and fertility declined ^{to} 2'6% growth rate in 1979-80.

Table V will show contraceptive prevalence rate found in different studies.

Table V

Contraceptive Prevalence Rates

Year	Percent of couples using contraceptives	Sources
1969	3'9	Impact Survey
1975	7'7	Bangladesh Fertility Survey (B.F.S.)
1979	12'7	Contraceptive Prevalence Survey (C.P.S.)
1981	18'6	,,
1983	21'7	,,

Source: Key Results - CPS - 1983 Dhaka :June, 1984.

C H A P T E R I I I

Programme and achievement during Second
Five Year Plan (1980-85).

During the SFYP Government target was to attain a Net Reproductive Rate (NRR) one by 1990 to limit the size of population to 115 million by 2000 AD. The aim was to increase the contraceptive Prevalence Rate (CPR) from about 14% to 37'5% during the Five Year of Plan period.

The annual target for C.P.R. Rates for the plan period was fixed at 14% to 1979-80 (base year) with an increasing rate of 18'9% for 1980-81, 23'7% for 1981-82, 28'4% for 82-83, 33% for 1983-84 and 37'5% for 1984-85.

By 1982 it became evident that the plan target was too ambitious to be achieved. The short fall recorded for the 1st two years were to the extent of 40'5% in sterilization, 57'4% in pill, 28'5% in condom at 44% in I.U.D. The Government undertook a review towards the 2nd half of 1982 in order to identify the major reasons for the short fall and to evolve measures to overcome the bottlenecks and improve performance.

Government has undertaken following measures to improve the programme performance after the mid-term review in 1982.

(a) The National Population Council (NPC) has been reconstituted into a high powered National Council for Population Control (NCPC) headed by the President. The NCPC provided policy guide lines, directives, approves programmes strategies and measures as required from time to time.

- (b) An Executive Committee headed by the Minister for Health and Population.
- (c) An unified command has been established at the top by the merger of the two Divisions of Health and Population Control under one Secretary of the Ministry of Health and Population Control.
- (d) A co-ordination mechanism at the district level with Civil Surgeon and Deputy Director, Family Planning sharing supervision of programme implementation has been introduced.
- (e) Upazila Family Planning Committees have been formed to be Chaired by the Chairman of Upazila Parishad for facilitating implementation of programme of the local level.
- (f) Job description of field functionaries of all category of personnel under Health & Population Control at the Upazila level and below have been revised and put into effect.
- (g) Primary health care has been included in the package of service delivery for distribution of O.R.s and vitamin capsules and immunization. This measure has greatly improved the acceptability of the female worker at the local level of the clients in general.
- (h) The static centres like Upazila Health Complex and Health and Family Welfare Centres (H&FWCs) have been made the meeting points of officers and field workers respectively. The house of FWA of family planning programme and that of Health Assistant of health programme have been designated as the contraceptive distribution point (CDP) to facilitate easy availability of contraceptive services.

- (i) The post of Family Planning Assistant (FPA) has been made transferable in order to enforce discipline among the cadre and to get work from them.
- (j) Personnel and staff provision have been greatly strengthened. A number of new posts have been created to strengthen service delivery system and field supervision.

Financial allocation has been increased from Tk. 50 million in 1972-73 to nearly Tk. 1200 million in 1984-85.

During October, 1984 a massive all time high 88,607 sterilization cases were performed with a success rate of 116% The I.U.D. performance during January 1985 has registered all time high figure of 42,180 and thereby achieving a success rate of 179% The performance during the period 1982-84 have far exceeded that of the previous decade of 1972-82.

Comperative statement of performance during the decade of 1972-82 and 1982-1984.

Method	1972-82	1982-84
Starilization	11,30,505	12,71,842
I.U.D.	4,41,167	5,55,715
Injectibles	2,39,170	2,44,737

Source : MIS Unit of Population Control Directorate.

The N.G.Os have also made significant contribution in the programme performance. The contribution of N.G.O. sector is to the extent of 30% in sterilization, 13% in I.U.D., 60% in injectables and about 70% in condoms.

Education and employment of female has inverse relationship with fertility. The Government is convinced with the evidence that female literacy not only has strong association with contraception and fertility but also with infant and child mortality. As such promotion of female literacy especially among girls is Government's special focus in the education sector. A scheme for the promotion of female education through scholarship and other motivational efforts in being experimented in Mehar-Panchagram and the preliminary result are encouraging.

C H A P T E R I V

Aims and objectives of 3rd. Five Year Plan (1985-90)

As per long term goal of achieving a net reproduction rate (NRR) of 1 by the year 1990, the SFYP demographic objective was fixed to reduce the crud birth rate (C.B.R.) from about 43 to about 32 per 1000 population. Presuming a simultaneous decline in the crud death rate (CDR) from about 17 to 14. This would have meant a reduction of the rate of national increase from 2'7% to 1'8%. This change would have required a rise in the contraceptive practice to 37'5% of eligible couples.

Fertility level did not decline as estimated by the end of 1985 CPR rate was estimated 25% and growth rate declined from 2'7% to 2'4%.

The demographic goal as proposed to be achieved by 1990, is a C.B.R of 31 per 1000, CDR of 13'4 per 1000 and rate of population increase 1'8% to achieve this goal CPR is to be increased from 25% to 40%.

The TFYP aims at immunizing about 5 million women of reproductive age groups with tetanus toxoid, an about equal number with D.P.T. besides educating most of the village mothers on preparation of oral Rehydration saline (O.R.S.). The plan will emphasise on the training of village Traditional Birth Attendants (TBAs) to ensure safe delivery. Government has been promoting and shall continue to promote certain measures to stimulate demand and sustain use of contraception for increasing fertility reduction.

Government has been continuing its efforts to harmonize health and population control in order to mutually reinforce each other and prevent overlap, duplicating or other anomalies in policies and programmes.

The Government is in search of additional measures to hasten the process of fertility decline. Admittedly family planning alone cannot minimize the fertility problems, though it has clear and independent effect. The acceptance of family planning is highest when it interacts with -

- (a) Closely related and mutually reinforcing social goals ;
- (b) Implemented with the active participation of the local leaders and the Community ;
- (c) Amply supplemented by N.G.O. efforts ;

Taking lessons from empirical evidence and to meet the latent unmet demand to increase contraceptive prevalence rate, the TFYP objectives and strategies have tentatively been drawn.

Some of the basic strategies that are to be followed during TFYP period are :-

1. Expanding infrastructure to ensure wider coverage of rural areas

During 1985-90 about 50 Upazila Health Complexes besides the existing 343 will be constructed to cover remaining Upazilas. The Upazila Health Complexes will be the key point for integrated Health MCH & FP service implementation activities. At Union level about 1500 Health & Family Welfare Centres will be constructed and made operational and another 500 Rural Dispensaries (R.D.s) will be upgraded to the level of H&FWCs in terms of physical facility by 1990. By the year 2000 AD. it is expected that each of the 4500 Union will have one functional H&FWC.

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ii. Optimize Utilization of existing service delivery Channels:

In order to ensure wider coverage as well as to raise the standard and quality of the services rendered to the people, the Government and N.G.O. service delivery system will be strengthened, closely supervised, monitored and corrective measures taken. For this purpose, upgradation of knowledge and skill of field workers and supervisory staff, improvement of management of the programme and supportive services like logistics and MIS will be done.

iii. Maximize coverage of priority MCH Services.

MCH services will be prioritised to include three major interventions of tetanus toxoid immunization, management of diarrhoea and promotion of safe delivery practices.

iv. Designing IEM activities to be more responsive to programme needs:

Measures proposed include redesign of communication messages to conform to programme at community needs, channelling of more method specific communication, involvement of community influentials in programme planning and implementation, enlisting co-operation of religious leaders, expanding communication activities to include MCH Services, co-ordination of Communication activities of various agencies, improving monitoring and evaluation to take care of major determinants of fertility.

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v. Manpower development and training :

Many measures are proposed to equip the manpower with necessary knowledge and skills, improve quality of training, greater attention to practical and field training, team training, strengthening of managerial capability and measures to improve motivation of staff like better remuneration, career development plan etc.

vi. N.G.O. will be involved in a larger degree in programme implementation both in urban and rural areas. Measures are proposed for co-ordination among N.G.O.s and with Government, streamlining funding mechanism, provision of support services, monitoring and evaluation.

vii. Testing innovation measures.

While the existing programme may increase contraceptive use to about 40% eligible couples by 1990, additional innovative measures to further increase the coverage up to 65% will be tested. Measures proposed include bond scheme, award for socially responsible couples, women credit programme, promotion of female enrolment in schools etc.

Financial out lay.

An amount of Tk. 8,700 million has been allocated to implement the public sector programmes as shown in Table VI below. It is further expected that about Tk. 700 million will be spent by the N.G.O. for family planning programmes during 1985-90.

Table VI.Component wise Allocation in TFYP (1985-90)

<u>Complements</u>	<u>Allocations</u>
1. Salary support	3500
2. Family Planning Services including Contraceptives	1500
3. Construction of H&FWCs	1500
4. MCH Programmes	1100
5. IEM programmes including Women's Programme.	650
6. Research, Evaluation and Training	450
<u>Total :</u>	<u>8700</u>

Source: TFYP (1985-90)

CHAPTER V.CONCLUSION

In view of the current evidences and as a result of the new and proposed measures it now appears that the country has achieved the prerequisites of a favourable setting for a vigorous family planning programme characterised by a strong political commitment of family planning ; strong programme leadership to translate commitment into action, growing infrastructure, intensive supervisory system and a higher level of social and cultural acceptance. In the context of such a situation it now seems feasible to achieve demographic goal of NRR one by the year 2000 A.D.

The Health and Population Control Ministry feels that it is possible to achieve N.R.R. One by the year 2000 A.D. with the strength and consolidation gained by the programme and the committed pursuit of goals by all concerned. As per projection under the assumption of attaining NRR one by the year 2000 A.D., the population of Bangladesh will be 128'5 million. The number of eligible couple is estimated to 25'7 million. In order to achieve N.R.R. One 60% of the eligible couple must be using contraception on a continuous basis. This in other words means 15'9 million continuous users will practice contraception in the year 2000 A.D.

It is estimated that there are about 5 million regular users in the country now out of a total number of 19'8 million eligible couples which indicates a current contraceptive prevalence rate of about 25% with the present size of the continued users 10'9 million will have to be added by the year 2000 A.D.

To achieve this goal one Million continuous users will have to be recruited. If the last year's level of achievement continues, it will not be very difficult to recruit one million target of continued users each year. Due to gearing up of programme efforts it can reasonably be hoped that recruitment of continued users will be over one million per year for the next one decade and a half ending in 2000 AD.

During my constant tour throughout Bangladesh as Joint Secretary, Population Control Wing I observed that there is dissatisfaction amongst the Family Planning Officers because of functional integration of Health and Family Planning Programme in Upazila and Union level. Previously FPOS were the members of the Thana Parisad (Now Upazila). Because of functional integration there FPO's have lost the membership of Upazila Parisad and have become subordinate to Health and Family Planning Officers. Office of the FPO also does not exist now. As growth of Population rate is a social problem it should be solved socially. A second thought is, therefore, necessary regarding effectiveness of this functional integration.

In the field level there exists some practical problems. There is provision of one FWW (Female) in each ward consisting of 6 to 7 thousand population. She is to visit at least 20 houses a day. If the sincere most worker visit 20 houses in a day it takes at least two months to cover her area. Generally three cycles of pills are distributed at a time. This will long for three months. In our country where the women folk even forget to take the medicine regularly in time,

it can not be presumed that they are using the freely distributed pills regularly. Moreover, as per job description Health Assistants also are to distribute contraceptives to the eligible couple. But with the excuse of various works of health side they generally do not do the family planning works. To avoid this every ward needs to be divided into two and the job may be divided by recruiting more FWW or half the area may be handed over to NGO workes to create competition between them.

Now if a Dai beings a client for starilization or for incersion of I.U.D, she gets Tk.45/- for each case as referral fee. It is easier to motivate one client for I.U.D. then for Stari- lization and as such there is now tendency to motivate for I.U.D instead of for starilization. It is suggested that because of price hike referral fee for starilization for all be increased.

As our country is havited by 90% Muslim population, we cannot take any programme which is not recognised by the Holy Quran & Hadidh. The Programme taken by the Government is not at all against any religious bar. But due to ignorance of our rural people, the so called Mollas preach against the programme in the rural area. In some cases even Zanaza of a dead person was opposed by the so called Mollas. Government should take measures against those who preach wrong to the ignorant public.

With the decretratization of administraction through Upazila Parisad it is expected that the Family Planning Programme will take a new shape if the Upazila Chairman and members take kin interest to solve the national rumber one problem.

Previously incentives was declared by Government to give awards to good workers .But for the last two years nothing was done in this respect. The decision of the Government needs to be implemented in the successful achievement of the target of the programme.

H&FWCs were first named as FWCs i.e. Family Welfare Centres. Later with a view to giving health facilities the word H.i.e. Health was inserted. But in these centres only MCH based medicines to treat mothers and children under five are supplied by the Population Directorate. As no medicine is supplied from Health Directorate male patients are denied of treatment there, though a Medical Assistant to treat the male is posted. In many centres male are treated in the name of his wife. Non supply of medicine by Health Directorate for male patients causing illfeeling between the staff of H&FWCs and villagers which is against the popularity and achievement of the F.P. Programme. But R.D.s which have been upgraded to H&FWCs are provided with medicine from both the Directorates. What a condition is prevailing where one upgraded RD is situated adjacent to one H&FWC can well be imagined. For better utilization of these H&FWC it is necessary to treat both kinds of centres equally in the interest of the F.P. Programme.

The Process and Effects of Urbanization in Bangladesh

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The meaning of urbanization :

The term urbanization denotes the process by which a population gets concentrated in cities or urban places'. The process may proceed in two ways :

- (i) through an increase in the number of urban places, or
- (ii) through an increase in the size of the existing population of each urban area.

The history of many countries, particularly developing ones, are however replete with instances of both the processes proceeding together resulting in one of the most significant of all postwar demographic phenomena i.e. extremely rapid growth of cities and urban areas in developing countries.

Defining an 'urban place' is not easy. Depending on how we regard an urban place it may be defined in a number of ways - architecturally, geographically, economically, politically, etc. For the sake of convenience and comparability a city or urban place is generally defined in demographic terms on the basis of some minimum number of inhabitants. The United Nations recommends that those places which have concentrated populations of 20,000 or more should be defined as urban¹. There are other dimensions of the problem of definition. For instance the 'place' element in 'urban place' is sometimes difficult to identify due to constant change in a city's boundaries. Further, the boundaries may sometimes be ill-defined or may be non-existent. With very big concentration of population, sometimes the population spills over the established or demarcated

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boundary lines of a city in which case the problem of definition becomes all the more difficult.

In its gradual evolution the human culture and civilization have caused three demographic developments to take place greatly contributing to the process of urbanization and urbanism as a way of life.

- (a) Population explosion - the remarkable acceleration in the rate of world population growth,
- (b) Population implosion - increased concentration of population into relatively small areas.
- (c) Population differentiation - increasing heterogeneity of peoples sharing the same geographic locale and the same economic and political activities.

The initial requirements for urban development were ecological base, psychological influences and sociological influences. Also new values, ideologies and outlook have affected the course of urbanization all over the world.

Urbanization in Bangladesh

In Bangladesh the Census Commission has defined an urban area as that which includes municipality, civil lines, cantonment and any continuous collection of houses inhabited by not less than 5000 persons. In addition, areas irrespective of population size have been treated as urban provided they met the following conditions :

- (i) areas having town committees,
- (ii) concentration of population in a continuous collection of houses where the community maintains public utilities such as roads, street lighting, water supply, sanitary arrangements, etc.

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(iii) centres having population characterized by high literacy rate?

Although from the point of view of the size of population Bangladesh is the eighth biggest state in the world, it is one of the least urbanized countries. In 1974 only 8.78 percent of the population of Bangladesh was living in urban areas. This level is relatively low when compared with some other neighbouring countries as may be seen from Table - 1 below :

Table - 1

Estimated Percentage Distribution of population of Eleven South Asian Countries including Bangladesh by Rural-Urban Breakdown.

Country	Date	Urban Percentage	Rural Percentage
Bangladesh	I-III-1974	8.8	91.2
Bhutan	1975	22.0	78.0
Burma	I-VII-1974	20.6	79.4
India	I-VII-1974	18.2	81.8
Iran	XI-1974	43.3	56.7
Malaysia	24-25-VIII-1970	29.9	70.1
Nepal	22-VI-1971	4.0	96.0
Pakistan	1968	26.8	73.2
Philippines	6-V-1970	31.7	68.3
Sri-Lanka	9-X-1971	22.4	77.6
Thailand	I-IV-1970	13.2	86.8

Source : Bangladesh Bureau of Statistics, Ministry of Planning, Government of the People's Republic of Bangladesh, 1974
Bangladesh Population Census Report, National Volume, P.14.

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Urbanization is a recent phenomenon in Bangladesh but of late an exceedingly high rate of growth has been clearly discernible even when it is compared with the rates of growth has been clearly discernible even when it is compared with the rates of growth obtaining in other Asian countries. The following table shows the rates of growth of urban, rural and total population of Bangladesh between census years 1901-1981.

Table - 2

Percentage Distribution of Urban and Rural population, Percentage changes in the intercensal periods and Rates of Growth of Urban, Rural and Total Population of Bangladesh by Census years 1901 - 1981.

Census years	% Urban	% Rural	Intercensal change in urban popu- lation (%)	Rate of Growth(exponential)		
				Urban	Rural	National
1901	2.43	97.57				
1911	2.55	97.45	14.96	1.39	0.85	0.87
1921	2.61	97.39	8.85	0.84	0.51	0.53
1931	3.01	96.99	22.20	2.00	0.64	0.68
1941	3.66	96.34	43.20	3.59	1.58	1.65
1951	4.34	95.66	18.38	1.68	0.00	0.00
1961	5.19	94.81	45.11	3.72	1.83	1.92
1971	8.78	91.22	137.57	6.70	2.33	2.62
1981	13.17	86.83	87.00	6.70	2.30	2.36

Source : Home Affairs Division, Ministry of Home and Kashmir Affairs, Karachi : Census of Pakistan, Volume-2, 1961 and Bangladesh Bureau of Statistics, Ministry of Planning, Government of the People's Republic of Bangladesh, 1974 Bangladesh Population Census Report, National Volume, The World Bank, Report No.3422 BD. Urban Sector Memorandum, May, 1981.

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The growth rate shown above is higher than that of Thailand and India. The rate was 6.7 percent in Bangladesh during 61-74 while during the same period it was 4.8 percent in Thailand and 3.8 percent in India.

In spite of a comparatively late start there is a very strong likelihood that the growth rate of urban population in Bangladesh will reach dramatic proportions in the near future. Prior to 1961, the urban population was growing by only about 3.7% per year. This rate accelerated to 6.7% after 1961. Since then, the largest three cities have grown at the fastest rates of 7% to 10% annually. As natural population growth and rural-urban migration will continue unabated during the next fifteen years the urban population is expected to increase by more than three times from the present levels to about 50 million by the year 2000 A.D. This means that over half the expected national population growth will take place in the cities.

To gauge the trend of growth of urban population an examination of the Table-2 is necessary. The examination of the table reveals the following :

(i) The levels of urbanization in Bangladesh as measured by percent of total population living in urban areas increased by nearly six times from 2.43 percent in 1901 to 13.17 in 1981.

(ii) The level of urbanization was very low during the British period (1901-1947), particularly at the beginning of the century and it remained static during the first two decades which is attributable to the growth of massive industrial-commercial agglomeration and conurbation around Calcutta turning Bangladesh into its hinterland.

Contd Pg/6

Moreover, the plague epidemic of 1921, devastating Bengal Famine and the Second World War were also responsible for slow growth of urban population during this period.

(iii) The rate of urbanization gained in momentum during the period 1951-1961 and it accelerated further during 1961-81. During 1951-1961 decade there was a 45.11 percent increase in urban population whereas in the preceding decade it was 18.38 percent. In 1974 the size of the urban population was over 6 million which constitutes 138 percent increase from 1961 level.

(iv) The urban population is growing consistently at a faster rate than that of the rural population since 1901 and this disparity in growth rates has further widened during 1961-81 when the urban population grew at an average annual rate rate (exponential) of 6.70 percent whereas the rural population grew by 2.33 percent. To illustrate further it may be pointed out here that in 1951 the urban population was a little over 1.84 million and it increased to 2.64 million in 1961, then it increased three times and reached to 6.27 million in 1974, again it doubled to 13.22 million in 1981.

The phenomenal growth of urban population during the last 20 years period (1961-81) is attributable to a number of factors all of which have combined to cause a large scale rural to urban migration. The industrial development during the 1960s, the emergence of Bangladesh as an independent country through a violent process, the high rate of inflation in post-1971 period, availability of statutory rationing in

Contd Pg/7

the major cities, deteriorating law and order situation in the rural areas and wage disparities between rural and urban areas are mainly responsible for rural to urban migration which, in turn, has been the major contributor to recent urban growth. Rural to urban migration per year increased fivefold between the census periods 1951-61 and 1961-1974 from an average of about 40,000 people per year during the first period to about 200,000 people per year during the second period. In 1961, only one out of every seven people in urban areas was a rural migrant but by 1974 the ratio dwindled to two out of every five³. The other major factor responsible for the growth of the tendency to migrate to urban areas is scarcity of land, landlessness and skewed land ownership patterns.

For a proper understanding of the magnitude of urbanization a table showing growth of the Statistical Metropolitan Areas and other major urban areas during 1961-81 period is furnished at Annexure-1. Another table is appended below which shows the impact of migration on the three major cities of Bangladesh, in relation to the size of the city and the size of the squatter population. The table which illustrates the magnitude and dimension of the process of urbanization clearly indicates that urbanization in some of the cities in Bangladesh has turned out as a socio-economic problem of considerable complexity rather than as an indicator of modernism and development.

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Table - 3

Migrants to Major cities : 1961-1974

City	Estimated No. of Migrants.	Migrants as proportion of total popula- tion. (1974)	Estimated squatter population (1974)	Squatters as proportion of migrants (1974)
Dhaka	947,000	56%	173,000	18%
Chittagong	378,000	43%	26,000	7%
Khulna	257,000	59%	54,000	21%

Source : R.H. Chaudury et al., "Management of Immigrants to Urban Regions in Bangladesh", GCB, National Report on Human Settlement : Bangladesh, HABITAT, UN Conference on Human Settlement, Vancouver, 1976 (Note : Estimates for Dhaka were before 1976 squatter relocation).

Distribution pattern of Urban growth

Recent studies being carried out in the Urban Development Directorate with the assistance of UNDP/UNCHS (Habitat) experts indicates the following groups of rapidly growing cities in 1981.

Table - 4

Distribution Pattern of Urban Growth (1981)

a. Urban agglomerations:

Dhaka	34.58 lakhs	33.69% of total urban
Chittagong	17.80 lakhs	13.52% of total urban
Khulna	6.23 lakhs	6.07% of total urban
Total	54.69 lakhs	53.28% of total urban

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b. Rapidly growing medium size towns :

Jhenaidah	0.49 lakhs	0.48% of total urban
Kurigram	0.46 lakhs	0.45% of total urban
Narshingdi	0.70 lakhs	0.68% of total urban
Sylhet	1.66 lakhs	1.62% of total urban
Chuadanga	0.48 lakhs	0.47% of total urban
Tangail	0.78 lakhs	0.76% of total urban
Rangpur	1.56 lakhs	1.52% of total urban
Jessore	1.49 lakhs	1.48% of total urban
Patuakhali	0.46 lakhs	0.45% of total urban
Satkhira	0.58 lakhs	0.56% of total urban
Total	8.66 lakhs	8.43% of total urban

c. Other growing townships:

Rajshahi	1.72 lakhs	1.68% of total urban
Comilla	1.26 lakhs	1.25% of total urban
Mymensingh	1.08 lakhs	1.05% of total urban
Sirajgonj	1.04 lakhs	1.01% of total urban
Bogra	0.68 lakhs	0.66% of total urban
Nowabgonj	0.65 lakhs	0.63% of total urban
Sherpur	0.52 lakhs	0.52% of total urban
Saidpur	1.28 lakhs	1.25% of total urban
Bhairab	0.64 lakhs	0.62% of total urban
Brahmanbaria	0.89 lakhs	0.87% of total urban
Total	9.76 lakhs	9.54% of total urban

The World Bank's study illustrates growth processes of the three agglomerations together with Rajshahi.

From the above table it will be seen that Dhaka, Chittagong and Khulna are the three major cities and principal urban centres in the country. Together they account for more than 5.5 million i.e. 55% of the total urban population.

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a. Dhaka

Dhaka the capital of Bangladesh and the biggest agglomeration and conurbation of the country was a big city during the Moghul rule but it was reduced to a district centre with the advent of the British rule. It resumed its prominence for a short period between 1906 to 1911 when it became the capital of Bengal and Assam. The annulment of the partition of Bengal in 1911 pushed the city into oblivion although it had been a textile, cultural and educational centre and an urban centre for a rich aquicultural delta hinterland. With partition of India in 1947 Dhaka became the capital of East Pakistan and it again rose to administrative and commercial importance which was greatly accentuated by its becoming the capital of independent Bangladesh in 1971. It has overtime become the most important manufacturing centre as well, as the focus of major river, rail and road transportation in the country. This economic and administrative importance has developed it into the prime city of Bangladesh. With a population of about 4 million to-day, the Dhaka Metropolitan Area contains about 35% of the total urban population of the country.

Urban economic activity in Bangladesh is largely concentrated in Dhaka. About 60% of all establishments surveyed by the Census of Manufacturing Industries (CMI 76-77) are located in Dhaka. 47% of all manufacturing employment is concentrated in Dhaka. Jute processing and textiles - the two principal industrial groups of Bangladesh are centered in Dhaka. Dhaka is the major beneficiary of the relatively

Contd Pg/11

rapid growth in public sector employment in Bangladesh. Thus the manufacturing sector and the public sector are the two major leading employment generating activities of the 'formal' sector of Dhaka's urban economy. The following table summarizes Dhaka's dominant economic position in urban economic activities.

Table-5

Dhaka's share of the National Economy and Investment

Criteria	Dhaka's percent of National Total
Manufacturing Employment	47% (1976-1977)
Employment in Jute and Textiles	75% (1976-1977)
Private Industrial Investment	55% (1976-1977)
Public Sector Investment	20% (1977-1979)
Physical Planning and Housing Budget Allocation	57% (1978-1980)
No. of Government Housing Units Assigned SPYF	68% (1980-1985)

b. Chittagong :

Chittagong, the second largest city of the country, is less than half the size of Dhaka with a population of about 1.5 million (in 1981). The relatively wealthier and politically more stable hinterland of Chittagong has resulted in its lower migration and urban growth rates. Chittagong has the lowest proportion of squatter population among the major urban centres of the country.

Contd Pg/12

Chittagong, the principal port city of Bangladesh, assumed its present economic role during the Pakistan period when it handled the largest proportion of Pakistan's exports. Its same role is still continuing. With it have added manufacturing and commercial activities of sizeable magnitude which are likely to expand further because of planned development of an export processing zone there. Due to historical reasons, Chittagong has a unique land ownership pattern. About a third of all land is owned by the Railways, a third by the Port Authority and only about a third is in private ownership⁴

c. Khulna

Khulna's past and present are quite different from those of Dhaka and Chittagong. With partition, Khulna's socio-economic situation was severely disrupted. But with the establishment of Chalna Port and location of manufacturing industries it witnessed not only a recovery but also a growth of great magnitude and dimension. Its location close to the Indian border together with the difficulty of access to points eastward brought about high rates of urban migration after 1960 so much so that Khulna experienced a 10% per annum rate of growth, the highest rate of growth of any major urban centre during the 1961-1974 intercensal period. The proportion of squatter settlement is the highest in Khulna. It has some of the highest unemployment rates and lower incomes of any urban areas in Bangladesh.

d. Other urban areas:

Urban growth in Bangladesh is only recently affecting medium-sized cities which have until now been essentially rural service centres. But many of these centres, particularly Mymensingh, Rajshahi, Comilla, Barisal, Jessore, etc., will experience significant growth problems during the next decades.

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Effects and problems of urbanization

The cities and urban areas have been facing problems in providing adequate employment opportunities and urban services to their growing populations and the problem will, in all probability, exacerbate in the future. The continuous increase in urban population has outstripped growth of urban economy and urban employment creation. As a result, increasing percentage of the urban population have been resorting to work and employment in the informal sector. This, in turn, has led to a decline of average real urban percapita income by one-third during 1963-77 period resulting in serious and widespread urban poverty. As in rural Bangladesh over 80% of the urban population are below poverty line calculated on the basis of minimum caloria needs. The number of urban poor increased from 3 million in 1963 to over 10 million in 1980⁵. A large number of people are absolutely poor and destitute. Their number is unknown. Census estimates by pass them. They pass their nights under open sky, in Railway, river and bus stations, in the staircases of government owned flats or in bustees made of waste materials and they lead an absolutely squalid and sub-human life the very sight of which will be nauseating to an inhabitant of a developed country.

Rapid population growth and urban poverty have very severely affected physical conditions in cities. Urban infrastructure, services and shelter have been rendered totally inadequate to bear the burden of the population. The majority of the urban population lives in very low standard rental and squatter accomodation. Roughly 65 percent of the

urban population is inadequately serviced and housed. In Dhaka about 35 percent of the population lives in extreme conditions of overcrowding with an almost total lack of services. Only a privileged few are currently benefiting from the present highly subsidized government housing programme.

Dimensions of the urban employment problem.

As mentioned earlier rural to urban migration has accelerated since 1961 so much so that urban population which was less than 4% of the total population in 1961 has increased to over 17% in 1985, growing from around 2.1 million in 1961 to 8.8 million 1974 and about 17.5 million in 1985. unprecedented pressure of population on land, leading to increasing landlessness coupled with lack of non-farm employment opportunities in the rural areas have been largely responsible for this phenomenal increase in rural to urban migration rate. Though rural nonfarm employment creation is being increasingly emphasized, productive employment opportunities in rural areas cannot be expected to absorb the anticipated increase in the labour force. Thus the 'push' to the urban centres in search of income earning opportunities will continue. Though the rate of future growth of urban population is difficult to predict precisely, it is certain to be substantially higher than the overall growth of population in Bangladesh. Even if the rates of rapid expansion of urban population experienced during the 1960s and 1970s were to slow down somewhat, urban population of Bangladesh by the turn of the century can be expected to reach over 37 million, and about 68 million by the year 2015. The urban labour force is expected to grow at the rate of about 6.3 percent p.a., between 1985-2000, and about 4.2 percent

p.a., from 2000-2015. There will be about 21 million new entrants to the labour force over the next 15 years, of which 8.6 million increase in urban labour force, about 5 million or 58 percent will be new migrants from the rural areas. Most of these will have been pushed out of agriculture and marginal rural activities, will have little education or skills, and very few assets, if any.

It is important to recognize that the expansion of urban population in Bangladesh is not in response to any sustained increase in demand for labour from the modern urban enterprises, but is due to the 'push' effect of rural non-farm employment opportunities. As such, the majority of the urban working population earn their livelihood in small non-farm activities in the so-called 'informal' sector in towns of all sizes. The informal sector consists of a wide variety of trades and services such as blacksmiths, carpenters, construction trades, transport (bicycle, rickshaws), vehicle repair and maintenance shops, road-side workshops, and includes many other marginal activities such as hawkers and sidewalk shops and restaurants. These activities are mostly at the subsistence level and do not create surpluses for modernization and expansion. Hence those who are dependent on informal sector for their livelihood can generally be categorized as belonging to the below poverty line group.

Urban housing and land

The existing level of urban poverty implies very low level of affordability of the urban dwellers which has two-fold implication here. First, the urban poor provides a very low level revenue base, severely

restricting flow of adequate finance for housing development. Second, a low level housing delivery for the urban poor has resulted in rapid worsening situation.

- a. There is increasing backlog and worsening occupancy rate, and
- b. Overwhelming growth of rudimentary shelters without the minimum level of services.

Table 6 shows that by the year 2000, new housing units to the extent of 5 million will have to be added to the existing stock which implies that an average 265,000 housing units will have to be constructed per year even accepting the present level of overcrowding.

Table - 6

Estimated New Shelter Requirements (1980-2000)

	1980 Population (Million)	Households (000)	2000 Population (Million)	Households (000)	1980-2000 New Housing Units required(000)
Dhaka	3.5	515	9.3	1691	1176
Chittagong	1.43	220	4.0	727	507
Khulna	0.70	108	2.3	418	310
Other cities (100,000)+ Cities		121	3.50	638	515
(50,000- 100,000)	1.03	158	3.70	672	514
All other	4.54	698	16.30	1963	2265
Total urban	11.80	1920	39.10	7107	5287

World Bank : Bangladesh Urban Sector Memorandum (1981), P. 32 Urban population figures : estimate of 1980.

In a macro economic growth strategy housing is regarded as an unproductive sector although it satisfies one of the basic needs of mankind. As a result investment allocation for housing in the development plans has persistently been inadequate. Hence housing is taken care of by the people themselves and there has not been any planned development worth mentioning. To illustrate it may be mentioned here that private sector accounts for 90% in Dhaka's and 93% in all other areas housing in the form of rental and owner occupied accommodations. Government rental housing and government built owner occupied housing constitute only 7% of the total urban housing.

In Bangladesh land is scarce and urban land is scarcer and excessive demand on urban land has resulted in very steep rise in land price. Extremely high land cost within urban areas preclude low-cost housing for the low income groups. Further, most of the modern construction materials such as cement, steel, C.I. sheet, etc., are in short supply in Bangladesh. Rise in prices of indigenous materials such as bricks, timber, bamboo, thatch, etc., has also been very high and almost beyond the reach of the urban poor.

There is no consciously formulated and explicitly articulated housing policy supported by appropriate programme barring those few which were taken up in the long past primarily for providing low cost housing for the rehabilitation of Indian refugees. In general the housing development programmes which were carried out in the past mostly catered to the needs of the higher middle and higher income groups.

Urban Infrastructure :

The levels of infrastructures and services in the existing urban areas is totally inadequate. The fast urbanization has been creating new demands which remain largely unmet due primarily to paucity of funds available to the agencies concerned and attaching low priority in the macro level planning.

a. Roads and access :

Construction and expansion of the urban road systems have not been able to keep pace with urban area expansion and intensification of traffic. The inadequacy is more in the peripheral areas where low income group people usually find shelter. High cost of construction, lack of adequate resources and lack of coordination between the multiplicity of urban agencies are responsible for the prevailing situation.

b. Water supply :

Levels of water supply vary in different urban areas, while in Dhaka and Chittagong piped water supply is available to more than 60% of the city dwellers there are a number of small towns where piped water supply is non-existent. In rest of the urban centres the water supply coverage is to the extent of about 30%. The remainder of the urban population depend on shallow tube-wells, ring wells and ponds. But with the increasing densification of the urban areas those cheaper alternatives are also proving impracticable.

c. drainage :

As a low lying delta country, Bangladesh has serious problems of flooding and inadequate drainage. No comprehensive drainage system

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exists in any of the cities and towns of the country. The haphazard and rudimentary drainage system that exists in most urban areas, particularly in major cities, cannot take care of the problem of drainage of the low lying urban areas posing a threat to the environment and these very areas generally accommodate the low income groups of the population packed in intolerable densities.

d. Sewerage :

Piped sewerage system exists in Dhaka serving 25% of the city area and only 18% of the urban household. In the rest of the urban areas sewerage disposal takes the shape of individual septic tanks, service latrines, borehole latrines and openpit latrines. The low income group which constitutes the bulk of the urban population can not afford piped sewerage connection or conventional septic tanks. Therefore, they resort to all sorts of improvised and unsanitary disposal arrangements. The capital cost for piped sewerage system being very high there is very little likelihood that any other/urban area excepting Dhaka and Chittagong will have been rudimentary piped sewerage systems in the foreseeable future.

a. Garbage disposal :

Garbage disposal, however, does not pose a serious problem in Bangladesh. A substantial quantity of waste materials is recycled to use due to subsistence character of the economy and hence per capita garbage production in the cities and towns of the country is one of the lowest in the world. Yet adequate mechanisms do not exist in many of the city/town municipal authorities to handle garbage disposal in effective, regular and hygienic manner.

f. Health and education facilities :

Like all other urban services health and education facilities could not keep pace with phenomenal growth of urbanization. Although health facilities available in the urban areas are more than the national average (3,8000 persons per hospital bed and 3,300 persons per physician), the health services are still over-burdened and of poor quality. Similarly, education facilities, specially at the primary and secondary level, have been lagging far behind the population growth. Further, the low income group does not have any access to whatever health and educational facilities are available.

g. Urban transportation:

Transportation provides essential linkages between the places of living and employment and between producers and consumers of goods and services. With the expansion of the sizes of the cities the average distance between above places also increases. A study shows that in the four large cities of the country 82% of urban poor travel to their places of work on foot, 4.4% use bus services, 3.1% use rickshaws, 3.1% use bicycles and only 0.3% use office transport⁶. This reveals that the transport facility is not only inadequate, the overwhelming majority of urban dwellers cannot pay for the transportation and therefore they need to live near their places of work which are the inner city areas. But various factors combine to do just the opposite; they are driven further and further away. As a result, existing slums are getting increasingly over populated and new slums are coming up in all the poorer sections of the cities.

Urban planning:

The urban development authorities were created in the late fifties primarily for the purpose of (a) development, improvement and expansion of the cities, (b) Planning and development control of existing and new areas within their statuterily defined territorial limits, (c) laying out or altering streets, (d) construction of new roads, and (e) creation of open spaces. However resources placed at their disposal were absolutely meagre from the very beginning. DIT received only Tk. 25.94 crores interest bearing loans between 1956-76, KDA Tk. 18.16 crore between 1961- 84. With this kind of resource allocation the objectives of ensuring planned human settlements and appropriate location services and facilities were left mostly to spontaneity. The result is what we find our cities to-day a plethora of human heads with inadequacies, shortages and threat of breakdown of services.

The future

The Third Five Year Plan allocations for some of the services and facilities of our urban centres are shown below :

Table - 7

	Ongoing	New	(in crore) Total
a. Public servants Housing.	4.70	9.43	14.13
b. H&S Directorate	6.38	52.88	59.26
c. DIT	1.18		1.18
d. CDA	2.18	10.00	12.18
e. KDA	0.20	-	0.20
f. RTDA	-	2.00	2.00
g. UDD	9.23	-	9.23
h. Urban water supply & sanitation		241.00	

The magnitude and dimension of the problems discussed in the foregoing paragraphs and the allocation of resources are totally unmatched."In the successive development plans of Bangladesh the critical importance of the Physical Planning and Housing Sector have been overlooked. This is manifest in the allocations for this sector in the different plans. There are basically two reasons behind this negative preferential treatment. Firstly, the country's over-riding need for achieving food autarky and building an infrastructure capable of sustaining progressive development efforts pre-empted the lion's share of investment allocations. Secondly, the social and political crunch resulting from the woeful neglect of shelter and services were slow to emerge and failed to attract the attention of the planners and policy makers. There has been a naive sense of complacency prevalent in most circles regarding impending crisis soon to emerge in the urban scene. The exploding urban growth and poverty will eventually change attitudes but there is a real danger that we would be caught completely unprepared and unable to face up to the challenge when it makes its presence felt in all its ugliness, unless the planners, policy makers and administrators begin to rise to the occasion and find necessary ways and means right from the start of the Third Five Year Plan to combat it The projected conservative increase of the urban fraction of the population in the next fifteen years will mean acquisition and servicing of quarter million acres of land for

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various urban uses, construction and management of five million shelter units almost 300,000 units per year, extension of water supply and sanitation coverage to almost to two and a half times the present size, construction of double the buildings, hospitals and schools existing at present. Compared to our past performance these targets would appear to be astronomical. Nevertheless, the nation must strive to avoid the social and political upheavals that may well occur if institutional measures are not taken and resource mobilisation do not take place right from the Third Five Year Plan. If the past trends are followed in resource allocations, more than 10 million urban people will be truly shelterless, foot-path dwellers and squatters, food and water riots will be daily affair, drains will overflow and engulf the city with filth, garbage will be piled up and massive thrombosis at traffic junctions will paralyse the cities. This is a frightfully grim scenario but hardly avoidable unless there is a dramatic change in the economy and attitude".⁷

References

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Appendix Table 2 : Process of urbanization - SMAs and major urban centres 1961 - 1981

SMAs/specified cities	Number of inhabitants 1961		Number of inhabitants 1981		Increase 1961-81	
	Census	Adjusted (xx) figures	Census	Adjusted (xx) figures	Col.5 (Col.3)	Col.6 Col.3 x 100
	2	3	4	5	6	7
Chittagong SMA	364,205 ^{x)}	389,699 ^{x)}	1,388,476	1,495,388	1,105,689	283.
Comilla	54,504	58,319	126,130	135,842	77,523	132.9
Chandpur	34,837	37,275	72,638	78,231	40,956	109.8
Brahmanbaria	44,784	47,918	88,635	95,459	47,541	99.2
Noakhali	19,874	21,265	46,572	50,158	28,893	135.8
Sylhet	37,740	40,381	166,847	179,694	139,313	344.9
Dhaka SMA	718,766 ^{x)}	769,080 ^{x)}	3,458,602	3,724,914	2,955,834	384.3
Narshingdi	14,752	15,784	70,006	75,396	59,612	377.6
Faridpur	28,338	30,316	66,911	72,063	41,747	137.7
Madaripur	25,328	27,100	58,645	63,160	36,060	133.0
Jamalpur	37,988	40,647	89,847	96,765	56,118	138.0
Sherpur	24,924	26,668	51,854	55,846	29,178	109.4
Mymensingh	53,256	56,983	107,863	116,168	59,185	103.4
Bhairab	31,749	33,971	63,739	68,657	34,686	102.1
Kishoregonj	24,031	25,713	52,081	56,091	30,378	118.1
Tangail	23,688	253,446	77,748	83,734	58,388	230.3
Barisal	69,936	74,831	159,298	171,563	96,732	129.2
Jessore	46,366	49,611	149,426	160,931	111,320	224.3
Jhenaidah	9,055	9,688	49,355	53,155	43,467	448.6
Khulna SMA	127,370	136,928	623,184	671,169	534,241	290.1
Satkhira	20,169	21,580	58,311	62,800	41,220	191.0
Kushtia	24,952	26,698	70,243	75,651	48,953	183.3
Chuadanga	11,625	12,438	47,815	51,496	39,058	314.0

(table continues)

-: 2 :-

Process of urbanization - SMAs and major
urban centres 1961 - 1981

Patuakhali	12,325	13,187	45,318	49,345	36,158	274.1
Bogra	33,784	36,148	68,237	73,491	37,343	103.3
Dinajpur	37,711	40,350	96,343	103,761	63,411	157.1
Fabna	40,792	43,647	101,080	108,863	65,216	149.4
Sirajganj	47,152	50,452	104,522	112,570	62,118	123.1
Rajshahi SMA	56,885 ^{x)}	60,867 ^{x)}	171,600	184,813	123,946	203.6
Nawabganj	29,725	31,805	65,286	70,313	38,508	121.0
Noagaon	20,276	21,695	51,791	55,778	34,083	157.1
Rangpur	40,634	43,478	155,964	167,973	124,495	286.3
Saidpur	60,628	64,871	128,085	137,947	73,076	112.6
Kurigram	8,703	9,312	46,132	49,684	40,372	433.5
TOTAL	223,647	2,394,051	8,179,094	8,808,869	6,414.818	267.9

x) 1961 data refers to Chittagong, Khulna and Rajshahi cities only since SMAs created between 1961 and 1974. In case of Dhaka Columns 2 and 3 comprise Dhaka city and Narayanganj.

xx) Adjusted figures mean corrected for underenumeration in the various censuses and distributed in a manner which takes into account such underenumeration. See UNCHS, UNDP, UDD, NPP Phase II Working Paper One.

PROBLEMS OF PROJECT APPRAISAL
AND IMPLEMENTATION IN BANGLADESH

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PROBLEMS OF PROJECT APPRAISAL AND
IMPLEMENTATION IN BANGLADESH

Literature on development economics is replete with references underling the crucial importance of projects in development. "Project are the cutting edge of development".(Price Gittinger). "Projects are the building blocks of an investment plan".(Little and Mirrlees). "..... the heart of any development plan consists of projects".(Waterston). In our context also, we find that our plan, in actual practice, is implemented through the instrument of annual development programmes (ADP); and these ADP's consist almost entirely of projects. Therefore whenever we are talking of implementing our development plans, we are really thinking in terms of implementing projects.

The various stages from project initiation to its completion constitutes what is known as the project cycle. All the stages of the project cycle — identification, preparation, appraisal and implementation — are important. And even beyond implementation management of a completed project, or in other words, the operation of a project after its completion is equally or more important. The scope of our paper is, however, limited. We focus

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only on the appraisal and implementation aspects of development projects. This is for the following reasons.

Appraisal is the stage when the crucial decision of accepting or rejecting a project is taken, and the basic work in this respect for public sector projects is primarily performed by the officials of the Ministries in the Planning Cells and the Planning Commission. For private sector projects, this work is done by officials of Department of Industries, Bangladesh Small and Cottage Industries Corporation (BSCIC), Bangladesh Shilpa Bank (BSB), Bangladesh Shilpa Rin Sangstha (BSRS) and others. The important thing to note is that in our context, appraisal of projects is done by a group of people/institutions who are different from those who have prepared them and who are going to implement them. They essentially try to view the merits of a candidate project from a neutral and objective point of view. The reason for focusing on appraisal is that I have had considerable exposure to this crucial stage while working in the Ministries of Finance and Planning and now in the Ministry of Health and Population Control.

The reason for including implementation within the scope of this paper is also a personal one. I worked for some time in the Project Implementation

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Bureau (now Implementation Monitoring and Evaluation Division) of the Ministry of Planning, which is the central project implementation monitoring agency of the Government. Implementation monitoring is also an important function of the planning and implementation cells of the Ministries, and in my present position, monitoring implementation of health sector projects is one of my responsibilities.

The problems that affect a meaningful appraisal and timely implementation are many. However, we shall focus only on the major causes which are relevant in the context of Bangladesh. Since appraisal and implementation are amenable to separate treatment from the conceptual point of view and since the stage of appraisal comes before that of implementation in time sequence, we first focus on problems of appraisal and then those of implementation. We also offer suggestions along the way where such suggestions are feasible.

APPRAISAL

Search for Alternatives

"Consideration of alternatives is the single most important feature of proper project analysis throughout

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the project cycle, from the development plan for the particular sector through identification to appraisal" (Squire and Van der Tak)^{P. 18}. Systematic scrutiny of plausible alternatives lies at the heart of the Project appraisal process. However, here also, we are faced with a static situation. When a project is prepared by a corporation or a private entrepreneur and submitted to the Department of Industries, it contains information and data only on one alternative, and appraisal is carried out on the basis of this only alternative which is presented. The search for the best alternative is thus overlooked in both the preparation and appraisal stages. Even when it seems that there is no alternative to doing a particular project, we may nevertheless consider two plausible alternatives. First, there is the alternative of doing nothing. On the surface, the do-nothing alternative may sound rather strange and paradoxical but this is not necessarily so because doing nothing really means letting things continue as they are. And we may note what little and Mirrlees have to say in this regard:

"It can very well be better to do nothing and save (or not borrow) the money than embark on some projects. There is no doubt that there have been many investments in developing countries which have actually reduced the national income and been a burden on the people".

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Government
or the

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However, we need not go to the extreme of doing nothing if investible funds are available either from our own sources or from external donors at favourable terms. While carrying out appraisal, we must then look for the best feasible alternative or for a better project.

Sensitivity Analysis

A major short-coming in our appraisal exercises within the Ministries and Planning Commission is that this very important test is frequently not carried out in arriving at the accept/reject decision in respect of a candidate project. This test is particularly crucial for projects in the industries, gas, electricity and similar sectors, where the output have a price and where, therefore, cost-benefit analysis is possible. This test is carried out by changing assumptions on some key variables and then observing how the change in assumptions changes the net present value (NPV) and the internal rate of return (IRR) of a project. For example, capacity utilisation is a key variable in our context and taking a realistic view of capacity utilisation during the life of a project after its completion is extremely important. However, in our appraisal exercises we take a static view of the uncertain future by assuming an unrealistically high (say 90%) rate of

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capacity utilisation, although in the light of actual experience over the last 14 years or so, i.e. using the wisdom of hindsight, we should assume a lower rate as well, and sensitivity test is the technique through which we can do that. The undertaking of sensitivity tests as an essential technique of appraisal would make us more cautious in taking the accept/reject decisions and would prompt us to look for a more profitable project or alternative.

Appointment of Qualified Staff

For any job requiring a certain amount of skill and expertise the appointment of qualified personnel becomes a necessity. For project appraisal, the need for the right kind of qualified people is perhaps greater than that for many other jobs. This is because project appraisal is as much an art as it is a science, and perhaps it is more of an art than a science. Just as the acquisition of a degree in medicine or law does not necessarily make one a good doctor or a lawyer, similarly the acquisition of knowledge of certain tools and techniques of project appraisal does not make one an expert in the field. People doing the job of project appraisal must have a sound knowledge of the working of the national economy. They must also have a good

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knowledge of the international economy if a project is to use imported inputs as raw materials or export its output to foreign countries. They must have sufficient experience in appraisal and preferably experience in the other stages such as project preparation and implementation also because of the interrelated nature of the different stages of the project cycle. The knowledge of the art of carrying out a meaningful appraisal is gained only through many years of experience in appraisal and related work. But even the knowledge of the art and the techniques of project appraisal is not enough. Attitude and aptitude are also very important, just as they are important for any job. Although we now have planning cells in practically every Ministry, the existing staff in these cells do not reflect the appointment of the right kind of people in the majority of positions. People with such technical background qualifications as medicine, engineering and science subjects, or civil servants have been appointed in the various positions in these cells, although they lack a proper knowledge of the art and the science of project appraisal. Naturally the quality of appraisal becomes quite low. This deficiency can be made good by appointing people with the right kind of knowledge, expertise and attitude, and through training, which is discussed in the following section.

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Training

Of necessity, the people involved in appraisal work have to come from a diverse academic background, as projects belong to different sectors, each requiring its peculiar specialist skill and expertise. This need for diverse specialist knowledge and expertise is particularly important for carrying out the technical appraisal, or rather an appraisal of all the viable alternative techniques. In fact, when we talk of alternatives in a project, we almost invariably think in terms of the different technical possibilities or processes that can be applied for the production of a particular output. But here again the viability of a particular technological alternative has to be viewed from its appropriateness in the context of our national economy. Thus, we are to consider whether a particular alternative would contribute more to growth than equity or more to equity than growth, or it would maximise both growth and equity. Naturally, from the viewpoint of our economy, we need to strive to find out that alternative technology which would maximise both growth and equity, which is by no means an easy thing to accomplish. Therefore, even for people coming from background of science, engineering or medicine, having a good grounding in development economics in general, and in the economic tools and techniques of project appraisal, in particular becomes a

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necessity. In any case, they need to work in close concert with their colleagues with an economics background and to atleast understand and appreciate their language and views. Similarly, people with an economics background must appreciate and understand the importance of evaluating the feasibility of different technological alternatives that are available. For that, they also need to acquire a certain level of knowledge of technological possibilities even if it is only at the appreciation level. Again this knowledge can at best be sector specific for, as we have already noted, each sector and each subsector within a sector can have its requirements of specialist knowledge and skill which is peculiar to that sector or subsector. Frequently this need of knowledge would be for both broad and in-depth kind. A superficial knowledge would just not do.

It would be apparent by now that project appraisal is not a one-man job. A team of people, coming from diverse background, need to work in close concert and and for that, they have to understand the language and appreciate the views of each other. Training, seminars and workshops are very important to effect this understanding and imbibe the perfect team spirit in all the people involved.

Unfortunately, this need for training, seminars and workshops is rarely appreciated by the authorities concerned, or even by people who are actually involved in appraisal work. To give a specific example, the Planning Cell of the Health Ministry where I am working now is manned by people coming from a background of medicine, statistics and economics. A similar situation would be found in the health sector unit of the Planning Commission. The Building Planning Design Unit (BPDU), which functions as an auxiliary of the Development Wing of this Ministry, is manned by engineers and architects. Now the need for health sector planning and project appraisal is peculiar to itself. It is not the same as that for industries sector or power sector. Cost-benefit analysis is not applicable in the health sector. Rather cost-effective analysis is applicable. However, hardly anybody either from the Planning Cell or from the BPDU or from the Planning Commission, has had any in-depth training in health sector planning and project appraisal or in health sector construction and architecture. When it comes to understanding each other's language and views, the situation becomes far worse. On the one hand, there is a lack of in-depth knowledge and expertise in the various specialist fields which are pertinent to health sector planning, project appraisal and implementation;

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on the other, there is lack of knowledge at the appreciation level to understand each other's viewpoints better. To compound matters further, there is also the lack of a proper attitude, because without an open mind, it is impossible to appreciate the views of others and this open-minded approach in our work is frequently wanting. We feel that more or less similar situations would also be obtaining in other Ministries.

The need of levels at which training has to be imparted would be apparent from the foregoing discussion. First, there has to be indepth-training in all the fields which are pertinent to the needs of planning and project appraisal in a particular sector. Short courses are not always the answer because little or insufficient knowledge can become a dangerous thing. It is not necessary that special background academic qualifications as pre-requisites for such in-depth training need to be rigid. People with diverse academic background can be given in-depth training if they are found otherwise suitable. If people with diverse background can be given the same training, that itself will effect a good measure of understanding between them. Besides, training in a particular field (say, economic project appraisal) atleast at the appreciation level must be given to persons who come from a background other than that field.

Attitude is far more difficult to reform, particularly after a person has already put in a good number of years of service in a specialist department or in a narrow field.

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But the wrong kind of attitude does a lot of harm to good appraisal work, just as it does for any job. This problem can largely be tackled again through training of officials when they are young. But for officials who have already crossed a certain age, changing the attitude would be a difficult task. Transfer to more suitable jobs or premature retirement would seem to be the only practicable alternatives.

Appointment of Consultants

As we have already noted, project appraisal is a team job requiring the knowledge and expertise of a number of people with diverse background qualifications and experience. Not infrequently, our Planning Commission and the planning cells do not have the necessary expertise in every field bearing ^{on} the peculiar needs of appraisal in a particular sector or sub-sector. Consultants having the necessary expertise can be appointed to fill in this gap. Consultants are by no means an uncommon phenomenon in the context of Bangladesh. However, few consultants, if ever, are appointed to do the crucially important job of project appraisal, on the basis of which decisions are taken to commit our very scarce financial resources. It is not always necessary to go for foreign experts. Such consultants can be drawn from retired officials. It is also not necessary to look for consultants always among the most highly

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educated people or from top officials. They can be
drawn effectively from ^{amongst} /whom we call technicians and
diploma holders.

Border Price .

/However, the
use of border
prices

Little, Mirrlees and others have advocated the use of border prices particularly for goods which are tradable. This means using the CIF price for importable inputs and f.o.b price for exportable outputs. Some economists of course, have criticised the use of border prices /has definitely its merits. It certainly can be used in the sensitivity analysis, which we have discussed. For example, if we decide to undertake a project which is uneconomic in terms of border prices, it would be done so with the full conscious knowledge of this fact, most probably for non-economic reasons.

Poor Project Preparation.

From our above discussion on appraisal, it would seem as if all the deficiencies which hinder meaningful project appraisal lie in the planning cells and Planning Commission. This is not so. Meaningful appraisal becomes a problem also because the earlier stages in the project cycle, particularly project preparation, is not gone through with thoroughness and care. If a project is poorly prepared, its meaningful appraisal becomes

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very difficult for this reason alone. Frequently, this is the situation in Bangladesh. In many cases, Project Proforma (PP) is the only document which is completed by way of project preparation. And even the PP is not completed with thoroughness and care. For example, the PP does provide for the discussion of alternatives, but in actual practice this is hardly the case. Besides, there is also the problem regarding the accuracy and reliability of the various information and data that are incorporated. Obviously, a meaningful appraisal on the basis of inaccurate and unreliable data and insufficient information becomes very difficult. But sometimes a decision is forced on the people doing the job of appraisal because of pressure from interested quarters. In cases where a lot of objections are raised and queries made by the Planning Commission and the planning cells, delay is caused and this delay can have a cost in terms of higher project costs. But if, on the other hand, projects were well prepared by the project sponsors and executing agencies, appraisal would have been relatively easy job to perform and not more than a mere formality. Therefore, the people who are involved in actual project preparation, such as those in attached departments and autonomous corporations, or private sector entrepreneurs, need also to be thoroughly trained in the art and science of project preparation, for the tools and

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techniques and skill required for project preparation as well as project appraisal are almost the same. If the necessary skill for such job is not available in the attached departments/corporations and in the private sectors, the project initiators should be asked to use the services of qualified consultants.

IMPLEMENTATION

Some of the things that we have said regarding project appraisal are also valid in respect of project implementation, although the knowledge and skill required for one are not quite the same as ^{that} for the other. Thus our observations and recommendations regarding recruitment of qualified staff, training, and project preparation (atleast, in so far as it relates to preparation of a realistic implementation schedule, relating this to the total project costs) would be generally applicable in respect of implementation also, although the type of knowledge and skill required may differ.

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Problems and constraints affecting timely implementation of projects are many — perhaps, many more than those in respect of appraisal. The Implementation Monitoring and Evaluation Division (IMED) of the Ministry of Planning has identified over the years many problems and constraints which cause time over-run and cost over-run of projects. The number of problems/constraints so identified exceeds thirty. However, we shall discuss here only the major problems/constraints. In fact, the other problems are mostly secondary in character and arise as a consequence of the major problems. If major problems can be effectively tackled, minor problems would largely disappear automatically.

The crucial thing to guard against in project implementation is delay because it is primarily delay which causes other complications, the most important being cost over-run. Time over-run and cost over-run of projects cause a shortfall in investment, thus defeating our efforts to achieve the planned targets. The causation of the delay has mainly to do with the following things : shortage of funds, lack of knowledge and skill, attitude, and procedural bottlenecks.

Shortage of funds

This is probably our biggest constraint and is at the root of many problems. This problem affects both ~~are requirements of take funds as well as foreign~~

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exchange. The distressing thing to note is that we do not even have adequate taka funds and the short-fall in taka funds has to be provided by reimburseable project aid, which means that even in respect of utilisation of a sizable portion of taka funds, we are saddled with the cumbersome donor procedures. As for foreign exchange requirements, the entire funding comes from project aid, and therefore there is no escape from satisfying all the donor conditions as well as the wishes of the bureaucrats of the bilateral and multi-lateral donor agencies who administer the disbursement of funds.

To give a specific example, the requirements of funds for the health sector for 1984-85 was Tk 135 crores, but the allocation made through the ADP was only Tk 87 crores. This was further reduced in the Revised ADP for 1984-85. The funds requested for 1985-86 for the health sector was Tk 114 crores, but the allocation in the ADP, 1985-86 is only Tk 81 crores. Looking at the need of the entire national economy, we get the same picture. The need was for Tk 5000 crores for the ADP, 1985-86, whereas allocation has been made only to the extent of Tk 3825 crores.

The problem of shortage of funds would be exacerbated by the inclusion of too many problems, and the allocation of the limited available funds to too many projects, —

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Lack of knowledge and Skill

It is really surprising to find out that inspite of majoring in different disciplines, so few people actually involved in project implementation have the requisite knowledge and skill of implementing projects on schedule. Most do not have sufficient knowledge of the different procedures and the courses of action involved in implementation work. Many do not know how to prepare tender documents, invite tenders and evaluate tenders. They even lack the basic knowledge of how to plan a work and then to work the plan, not to speak of the knowledge of finding the critical path for the timely completion of a project. The project directors/managers frequently lack the knowledge of how to prepare job description, divide work among their subordinate staff and effectively supervise them. For example, in the case of health sector projects, many of the project directors are doctors. However, they do not have an adequate knowledge and skill of the things that we have just mentioned.

One way of tackling this problem would be through training. And in fact, over the last five years or so, a lot of officers have been trained by the IMED, Academy for Planning and Development and others in the field of project management. Nevertheless, the problem persists.

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It would therefore seem that many of the people who were trained are not being used in actual project implementation work, or it could be the case that the knowledge is not being properly applied for some other reasons (e.g. for reason of wrong attitude).

Attitude

Negligence of duty, indifference, corrupt practices, etc would fall under the category of negative attitude. Unfortunately, in our socio-cultural environment, the wrong kind of attitude is a real problem in project implementation, and for that matter, for all other jobs. If the attitude is wrong, no amount of knowledge and skill would do. In project implementation work, however, the wrong kind of attitude would perhaps do more damage than in case of many other work. This is because project implementation has to be effected strictly according to a time schedule, and if for any reason, the schedule for a particular job is disrupted, it would have telling effect upon other schedules, resulting in ^{the} ^{of} problem/time over-run and therefore its twin problem of cost over-run. The matter of appointment of the right kind of people in project implementation ^{therefore} assumes crucial importance, and therefore every effort should be made to avoid cases of square pegs in round holes.

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Procedural Bottlenecks

Over the years, a lot has been done to simplify procedures of release of funds and to delegate more powers to project directors. As a result, financial utilisation of funds has generally improved. However, it is not easy to simplify the procedures of the donor agencies, on whom we are so much dependent for our development funds. The procedures in respect of reimburseable project aid is a case in point. The donors were requested to effect direct disbursement of taka project aid rather than on reimburseable basis, but they did not agree. This explains for the relatively poor utilisation of reimburseable project aid.

Poor Project Preparation

" Perhaps the most difficult single problem agricultural administrators in developing countries face is implementation of development programs. Much of this can be traced to poor project preparation". (Price Gittinger)

What is true for agricultural administrators is also true for other administrators. We have already noted the importance of proper project preparation in the section on appraisal. It is important for project implementation as well. Particularly, the preparation of different schedules on job basis, to relate the different schedules to one another in the project document, and to work out the

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overall project costs on the basis of these schedules at the project preparation stage is crucially important.

Conclusion

From the above, most of the problems are really people-related problem. It is the people who through their lack of knowledge and skill or through their attitude cause many of the problems that we caused. Even when investible funds is very scarce, it is the people-related problem which prevents us from realising the maximum benefit out of scarce resources.

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 সালের বার্ষিক উন্নয়ন কর্মসূচী এবং ২য় পক্বে বার্ষিক পরিকল্পনা বাসুবা঳নের
 অগ্রগতি পর্যালোচনা, জাতীয় অর্থনৈতিক পরিষদের জন্য সার সংক্ষেপ,
 ১লা ডিসেম্বর, ১৯৮৫ ।

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STRATEGIES FOR DEVELOPMENT OF
TRANSPORT IN BANGLADESH.

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STRATEGIES FOR DEVELOPMENT OF TRANSPORT IN BANGLADESH.

Introduction:

Transport plays an important role in economic development of a country. It helps the growth of an economy by the provision of cheap, adequate and efficient services for the transportation of men and materials. The geography of Bangladesh has given rise to varied and complex transport system. The riverine character of the country with annual monsoon flood makes the terrain very difficult for construction and maintenance of roads and railways and its deltaic formation overlaid by millions of tons of silts carried by the Ganges and the Jamuna makes it equally difficult to keep the water ways open. The high cost of construction and maintenance of transport together with resource constraint makes Bangladesh the least developed infrastructure for transportation. Bangladesh has 7.45 Km. of paved roads per 100 Sq. Km. of area as compared to 16.76 Km. in other developing countries in the south-east-region.

Transport network in Bangladesh consists of railways, roads, waterways and aviation. The major demand for freight traffic has come to originate from arterial movement of imports and exports. Imports have grown fast and are now about three times the export. This imbalance would imply underutilised transport capacity on return journey and higher transport cost but this is hardly avoidable as imports generally exceeded exports in order to absorb aid financed commodities.

Review of the past developments:

The inadequate transport system of Bangladesh suffered greatly during the liberation war. The period of the First Five Year Plan (FFYP) (1973-78) and the Two Year Plan (TYP) (1978-80) was largely the period of rehabilitation except for some marginal improvements as were considered essential. The improvements included ~~of~~ pavement of 804 Km. of road, construction of Zia International Airport, construction of five permanent Jetties at Chalna, procurement of locomotives, coaches and wagons for Bangladesh Railway, acquisition of 18 ocean going ships, procurement of dredges etc.

The position of different modes of transport is discussed below:-

BANGLADESH RAILWAY:

Bangladesh Railway inherited a total route length of 2859 Km. /of which 924 km. was Broad Gauge and 1935 Km. was Meter Gauge. There were about 467 stations and nearly 4000 bridges including the mini ones. The river Jamuna has divided the railway system into two Zones. The East-West connection is made by ferries between Bahadurabad - Tistamukh ghat and Sirajganj ghat - Jagannath ganj.

Railway network virtually remains unchanged since mid 1973. The only recent extension is the increase of 18 Km. of overall track extension. The present position of route length and track length is as follows:-

TABLE - I : ROUTE LENGTH AND TRACK LENGTH

Gauge	Route Kilometer	Track Kilometer
Broad Gauge	979	1605
Meter Gauge	1.913	3946
Total:-	2892	4551

RAILWAY TRAFFIC:

The traffic carried by the Bangladesh Railway is indicated below:

TABLE - II : TRAFFIC POSITION OF BANGLADESH RAILWAY.

Year	No of Passengers (in million)	Average (passenger(KM)	Freight Tonne Carried (in million)	Average Load Freight (m.)
1973-74	72.9	45.4	2.81	212.0
1974-75	82.6	49.2	2.95	211.7
1975-76	93.8	47.6	3.39	220.6
1976-77	94.4	49.1	3.16	225.5
1977-78	96.2	52.0	3.57	220.4
1978-79	89.8	53.9	3.24	259.2
1979-80	88.5	57.8	3.18	268.7
1980-81	89.3	58.3	2.98	263.6
1981-82	90.4	59.4	3.23	261.4
1982-83	105.6	60.8	3.00	271.5
1983-84	98.9	63.6	2.94	264.9

There has been an increase in passenger traffic presumably due to increase in population and high movement and also for cheaper fare compared to other modes of transport. The slight fall in freight traffic is attributable to shift in traffic from railway to road because of the comparative reliability, flexibility and ready availability of delivery service. There was also decline in efficiency in term of use of its rolling stock.

FINANCIAL PERFORMANCE OF RAILWAY:

Total volume of receipts of railway increased but the financial performance in general deteriorated. There was loss in all the years since liberation except in three years as shown below. The railways failed to meet its obligations such as adequate return on Government investment and allocation of adequate funds for maintenance thereby pushing all accumulated replacements to the development budget.

TABLE: III:- FINANCIAL PERFORMANCE OF BANGLADESH RAILWAY.

Year	Total Operating Revenue	Total Operating Expenses	Taka in Lakh. Net Operating result.
1972-73	2469	2361	+ 108
1973-74	2783	3426	- 643
1974-75	4027	4071	- 44
1975-76	5048	4941	+ 107
1976-77	5430	5725	- 296
1977-78	6270	6603	- 331
1978-79	8286	8003	+ 283
1979-80	9226	9638	- 412
1980-81	10408	12272	-1864
1981-82	12902	13171	- 269
1982-83	14946	15029	- 83
1983-84	14461	17822	- 3361
1984-85	16706	20339	- 3633

The main causes for persistent financial loss of railway are under-utilisation of capital assets, leakage of revenue, lagged response of fares and freight to increasing operating cost and continued operation of certain branch lines on net loss. Railway tariff is generally fixed on the age-old principle of "what the traffic can bear". As a result, rate does not reflect cost as is evident from the fact that freight rate per ton Km. in 1984-85 has been Tk.0.75 as against an estimated cost of Tk.1.86. Similarly, fare per passenger kilometer has been Tk.0.07 as against an estimated cost of Tk.0.21. Moreover, one characteristic of passenger traffic is that a substantial portion of passengers are ticketless travellers. A study by the consultants attached to Planning Commission estimated that 10 to 25 percent of passengers travel without ticket.

Road and Road Transport:

Roads and road transport play a crucial role in rapid economic growth of a country, road transport is particularly suitable for short haul traffic and for some specified types of goods, such as perishables and high valued commodities, because of its flexibilities, shorter transit time, lower loss or damage during transit and consequent reduction in costs. During preliberation days, growth of this sector was slow but after independence, priority was given to this sector. As a result, a net work of 669 kilometers of paved roads were added during the SFYP bringing the total km. of paved roads to 4827 km; besides this another 512 km. of roads were upgraded and 531 km. of roads were paved with brick/gravel. Total length of bridge/culverts constructed was 7528 meters including 3302 meters of portable steel bridges raising the total length of

bridges and culverts to approximately 76,220 meters. Govt. has also chalked out plans to link all upazila Headquarters with the nearest metal roads. This will lead to higher construction of roads. But this will create pressure on available resources and man power of R & H Deptt. In this sub-sector, there were too many incomplete projects resulting in foregoing benefits from investments already made. Undertaking too many (121 projects were under implementation at the end of SFYP) projects meant that there were too little fund for maintenance (25% of total investment).

Road Transportation: Both public and private sectors provide road transportation which consists of both automotive vehicles like bus truck etc. and indigenous **modes** like carts and paddle rickshaws. The indigenous modes are of local importance but they constitute significant portion of road transportation (60% of passenger-kilometers and 36% of freight ton km.). Automotive vehicles recorded substantial increase and were largely operated by the private sector. Out of the total number of registered buses and trucks (32800 in 1984-85), 98% was owned by the private sector. Another feature is that while the public sector road transportation is confined to mechanised transport, the private sector is engaged in both mechanised and traditional non-mechanised transport.

Public Sector Road Transportation. The main operator in the public sector is the Bangladesh Road Transport Corporation(BRTC). BRTC has a Bus division and a Truck division having active fleet of 465 buses and 168 trucks. The services of BRTC operate from 12 depots, 9 sub-depots and 11 stations and provide services mainly in the cities of Dhaka, Chittagong and a few interdistrict routes. Due to management and operational problems BRTC could not so far operate its fleet on commercial basis. The percentage of off-road vehicles was on an average 29, which is considered high for a commercial organisation. The fleet position of BRTC is given below:-

TABLE- IV: BRTC FLEET POSITION (1980 to 1985).

Type of Vehicles	Total fleet (Active)		Road worthy		Av. on road %	
	(1979-80)	(1984-85)	(1979-80)	(1984-85)	(1979-80)	(1984-85)
Bus	675	465	373	331	55%	71%
Truck	110	168	97	155	88%	92%
Total:-	785	633	470	486	71.5%	77%

PRIVATE ROAD TRANSPORTATION:

The private sector is the main operator in this sector contributing 86% of mechanised transport in 1984-85. The role of the non-mechanised sector is overwhelmingly large in this sector. A statement showing the relative position of the various road transport vehicles, both mechanised and non-mechanised, is given below:-

TABLE:- V: GROWTH OF ROAD TRANSPORT (1980-85).

Category of Vehicles	(Figure in number)	
	1979-80	1984-85
1. Mechanised:		
Bus	10294	9365
Truck	16118	17270
Minibus	370	6165
Car(private)	19418	40000
Jheep	8321	9000
Taxi Car	1113	1817
Auto-Rikshaw	10632	17806
Truck Tractor	1815	3402
Motor cycle	38778	70767
Other	1602	2282
Truck trailor	939	2050
Total Mechanised	105782	179924
2. Non-mechanised:		
Rickshaw	163000	200000
Bullock cart	216043	276000
Total Non-mechanised-	379043	476000

From the above table, it is evident that the mechanised and non-mechanised vehicles increased by 70% and 26% respectively over the period. This is mainly due to incentive provided by the govt. for investment by the private sector in the mechanised mode.

PORT DEVELOPMENT:

The development of port facilities is very important in the process of import absorption and export. Also in the case of crop failures, the ports are required to handle huge foodgrain imports. In the years from 1979-80 to 1984-85, cargo handled by the Ports at Chittagong and Chalna increased by one million ton to 9.8 million tons due to increase in imports. The inflow of foreign aid resulted in large imports to meet domestic requirements of food and non-food items.

Cargo handled by the Chittagong and Chalna Ports during 1979-80 to 1984-85 are shown below:

TABLE: VI:- IMPORTS AND EXPORTS HANDLED BY PORTS:

Year	Chittagong port			Chalna port		
	Import	Export	Total	Import	Export	Total
1979-80	59.99	3.34	63.33	6.76	14.70	21.46
1980-81	50.15	5.47	55.62	7.41	8.86	16.27
1981-82	51.47	5.03	56.50	7.08	9.20	16.28
1982-83	49.63	4.54	54.17	8.02	10.98	19.00
1983-84	56.81	3.93	60.74	6.88	10.86	17.75
1984-85	68.28	3.30	71.58	5.77	20.86	26.63

It may be seen from the above that import trade dominates Chittagong port and export commodities dominates Chalna port. Thus in 1984-85, Chittagong port handled almost 90% of import trade but its share in export was limited to only 13% of export trade. This imbalance at ports is un-economic from national point of view since this means gross shortfall in reverse cargo in round trip to make best use of the existing facilities. This resulted in empty one way journey for railways, trucks, tugs and vessels and long waiting.

SHIPPING:

Bangladesh Shipping Corporation(BSC) has been established in 1972 to perform, among others, the following functions:

- a) To provide safe and efficient shipping services on international routes.
- b) To acquire, charter, hold or dispose of ships and crafts.

The need for Bangladesh to acquire a fleet of ocean-going ships under its ownership and control is three fold: to be independent of foreign flag vessels in times of international difficulty and as an insurance against adverse movements of freight rates; to save foreign exchange by carrying a reasonable proportion of the country's imports and exports, and to give employment to Bangladesh nationals in a vocation for which their skills are world famous. Bangladesh is entitled to handle 40% of its incoming and outgoing cargo under the international convention. During the Second Five Year Plan(SFYP), Bangladesh Shipping Corporation(BSC) procured only 4 cargo vessels but disposed off 6 vessels. This resulted in the reduction of capacity to 2.64 lakh tons dwt in 21 vessels in June 1985 from 3.68 lakh ton dwt in 25 vessels in 1979-80. Due to non-availability of external resources at suitable terms, BSC could not procure more ships. Cargo carried by BSC during SFYP is given below:

TABLE: VII:- CARGO CARRIED BY BSC:

Year	(In lakh tons)		
	Cargo carried by BSC, chartered and own vessels	Total Sea borne cargo of the country	% of cargo carried by BSC of total sea borne cargo
1979-80	14.32	84.80	16.89
1980-81	12.03	71.89	16.73
1981-82	11.20	72.79	15.38
1982-83	14.14	73.19	19.32
1983-84	12.47	78.49	15.89
1984-85	14.60	98.21	14.87

This shows that only 14 to 19% of cargo was carried by BSC, This lower carriage was due to shortage of suitable vessel with BSC.

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INSTITUTIONAL ARRANGEMENTS:

Marine Academy: Set up in 1962, this academy trains nautical and engineering cadets to serve the requirement of the international shipping. It provides several pre-sea and post-sea courses for mates, masters and holds DOT 1st class and Second class examinations.

In 1983, Marine Fisheries Training Academy was transferred to the Marine Academy. This (MFTA) Academy trains cadets for the fishing trawlers in the fields of navigation, marine engineering, fish processing, electrical engineering, refrigeration engineering, radio engineering, trawler operation and sailship. The trained personnels are being employed in national and international fishing vessels.

Department of Shipping.

This Department is engaged in the regulation of maritime Shipping and training of personnels for employment in the shipping Sub-sector.

Mercantile Marine Deptt:

This department provides navigational facilities to ocean going ships through construction and maintenance of Lighthouses and operation of navigational aids such as buoys, beacons etc. Thus this department provides assistance for proper sailing of ships between Chittagong and Chalna ports. It also provides assistance for search and ^{cue}rescue of distressed ships in the territorial waters of Bangladesh.

Inland Water Transport:

There are about 4827 Km. of perennial waterways and another 804 Km. of seasonal waterways in Bangladesh. Water ways constitute the main artery of communication between the urban centres and the rural areas, particularly in the south east. But due to siltation of main rivers and withdrawal of water for irrigation, the water ways suffer continuous shrinkage.

To regulate waterways and to help conservation of water transport Govt. set up Inland Water Transport Authority in 1960. The Authority is responsible for building and maintenance of inland water ports, maintenance of navigational channels, provision of navigational aids and performance of regulatory functions e.g. registration of vessels. The authority also carry-out hydrographic survey and hydraulic investigation to keep record of hydraulic changes of water level. It also undertakes dredging for keeping navigational channels open to traffic.

Water Transport Carriers:

The private sector plays the dominant role in this sector. In 1979-80 there were 2445 registered vessels operating in the waterways sector; out of these 1845 were owned by the private sector. When the SFYP was launched, Bangladesh Inland Water Transport Corporation (BIWTC) owned 600 vessels of different types and carried about 50% of the total arterial freight traffic and about

10 percent of inter-district passenger traffic. But following the Govt. Policy to gradually privatise inland water transport, the role of BIWTC was restricted. Its vessel fleet at the end of SFYP reduced to 533 vessels. Its Rocket service between Dhaka and Khulna is operated as an utility cum-commercial service but this never proved economically viable. It also operates a coastal passenger-cum-cargo service which connects Barisal and Chittagong and the off-shore-islands in between. It also provides ferry services between Aricha-Nagarbari, Aricha-Daulatdia and Sirajganj-Buapur sectors.

Cargo and passengers transported by BIWTC during 1979-80 to 1984-85 are given below:

TABLE: VIII- TRAFFIC CARRIED BY BIWTC(1979-80 to 1984-85)

Year	Cargo (in lakh tons)	Passenger (No in lakh).
1979-80	20.46	27.38
1980-81	15.84	27.94
1981-82	13.28	29.86
1982-83	10.26	28.08
1983-84	10.59	45.02
1984-85	13.18	48.21

Private Inland Water Transportation:

Share of private sector in Inland Water Transport is very high indeed. 84% of total mechanised fleet of vessels was operated by the private sector in 1984-85 as compared with 79% in 1979-80. Country boats play an important role in catering to the total transport needs. Estimated number of country boats in 1979-80 was 1.50 lakhs which rose to 2.00 lakhs in 1984-85. Goods and passengers carried by these country boats during the year 1984-85 stood at 3840 million ton-km. and 2400 million passenger - km. respectively. Private sector investment in mechanised IWT sector during the SFYP has been Tk.371.01 cr. as compared to Tk.114.24 crore during the FFYP.

CIVIL AVIATION:

In this field, notable developments during SFYP are comissioning of Zia International Airport, new airports at Rajshahi and Saidpur, up-grading of Sylhet Airport and improvement of runway at Chittagong. Fleet capacity^{of Biman} in the domestic sector increased from four F-27 to 5 consisting of three F-27 and two F-28. In the international sector, the expansion of fleet was more significant the number of air-craft increased from 4 Boeing-707 to 8 consisting of 5 Boeing-707 and 3 DC-10-30

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Traffic Performance of Biman:

The performance of Biman may be seen from the table given below:

TABLE- IX: TRAFFIC PERFORMANCE OF BIMAN.

(Figures in lakhs).

Types	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
<u>1.Domestic</u>						
a) Passenger (No)	3.79	3.08	3.23	3.25	3.46	3.27
b) Cargo(Kg)	35.88	23.31	23.31	15.57	15.80	14.32
c) Mail(kg)	1.45	1.34	1.32	1.35	1.68	1.32
<u>2.Regional:</u>						
a) Passenger (No)	0.56	0.50	0.51	0.51	0.80	1.24
b) Cargo(kg)	8.51	3.72	4.22	3.20	5.58	12.71
c) Mail (kg)	0.28	0.30	0.31	0.21	0.32	0.41
<u>3)International:</u>						
a) Passenger (No)	2.06	2.26	2.47	2.41	2.94	2.83
b) Cargo(kg)	40.58	35.88	41.96	55.06	84.74	94.31
c) Mail(kg)	1.64	1.46	1.63	2.05	2.31	2.07

Traffic performance of Biman perceptively improved in the international sector but recorded decline in the domestic sector. Average daily utilisation of DC-10, Boeing-707, F-28 and F-27 aircraft was 7.24, 3.96, 2.96 and 2.82 hours respectively which is lower than the international standard hours of 10. Financial performance of Biman also improved, though domestic traffic is being subsidised by the international sector.

Financial performance of Biman:

Financial performance of Biman may be seen in the table given below:

TABLE- X: FINANCIAL PERFORMANCE OF BIMAN:

Year	(Taka in lakh).		
	Revenue	Expenditure	Net profit/(loss).
1979-80	12760.78	1221.26	533.52
1980-81	14789.13	16241.84	(1452.71)
1981-82	18736.27	19422.09	(985.82)
1982-83	22978.02	21884.72	1093.30
1983-84	30002.49	28579.67	1422.82
1984-85	37013.82	35878.64	1135.18

This shows that the Biman has become a profitable organisation. This was due to better facilities provided after acquisition of wide-bodied aircrafts.

DEMAND FOR TRANSPORT:

In order to determine the anticipated total demand for traffic and the modal shares by the year 1989-90, a study has been completed. Total demand and the modal shares of the principal modes in total domestic traffic as projected by the study are shown in the table below:-

Table 11: Modal split of passenger Traffic and Major Freight Traffic (Mechanised modes only)

Modes	1984 - 85				1989 - 90			
	Freight Traffic		Passenger Traffic		Freight Traffic		Passenger Traffic	
	In lakh tons	In %	In lakh No.	In %	In lakh ton.	In %	In lakh No.	In %
	X	X	X	X	X	X	X	X
1. Rail	28.2	14	1325	34	29.2	10	1720	34
2. Road	124.0	59	1144	30	191.0	65	1480	29
3. Water	37.3	27	1410	36	72.4	25	1840	37
Total	209.5	100	3879	100	292.6	100	5054	100

Source: Intermodal Transport study (Draft Report)

The above projection implies a growth of freight traffic of 2.8% for railway, 9.5% for roads and 5.7% for waterways; the corresponding figures for passenger traffic are 6.7%, 6.6% and 6.7% respectively. It is presumed that both railway and water transport has necessary capacity and assets, with proper repair and maintenance, to meet the increased demand. As regards road transport, this is mainly operated by the private sector and adequate incentive will be provided in the Third Five Year Plan to acquire road transport vehicles by the private sector as and when demand warrants.

With this brief overview, we come to the strategy for transport development in Bangladesh.

STRATEGY FOR TRANSPORT DEVELOPMENT:

The major strategy for transport development is to meet adequately the need for transport demand of all sectors of the economy and also to meet the transportation need of the administration and defence. In order to cater for this, it is necessary to create appropriate technical economic and institutional conditions for optimal growth and distribution of traffic between different modes of transport facilities. The modes are to be developed in such a way that they can operate with utmost efficiency and can meet the total needs of the economy at minimum social cost.

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In line with Govt. effort to decentralise socio-economic activities so that more and more areas in the remote rural areas may be provided with facilities like health, education, electricity, water supply etc., it is necessary to develop efficient transport service in the rural areas. Hence it is necessary to construct standard rural roads, develop inland river ports and improve navigability of waterways. Side by side improvement to non-machanised transport equipments (Passenger and Cargo rickshaws, bullock carts, country boats ect.) shall have to be attempted to facilitate wider movement in the rural areas.

It is to be remembered that transport is a service sector. Its contribution to development is largely indirect, though shortage of capacity or transport bottlenecks can certainly hamper development. It is better to apply commercial criteria to transport operations through rationalisation of fare and freight rates. While the immediate strategy should be to ensure efficient distribution of traffic between modes through a rational pricing policy, the long run stretegy should be to ensure efficient allocation of resources through investment decisions and policy.

In the case of road transport and water ways, where both public and private sector operate, the strategy should be to allow private sector to compete on equal terms with the public sector. Public sector operators should be required to keep depreciation fund and finance repair and replacement from their own source rather than putting burden on development budget for such fund.

In the inter-district freight and passenger movement, non-mechanised transports constitutes a dominant force. The non-mechanised private transport modes engaged about 5.5 lakh persons in 1979 (about 80% of transport sector) and its import contents are also minimal. These considerations as also the rising fuel prices indicate that it is necessary to give much more attention to improvement and sustenance of the non-mechanised transport modes. All efforts should be made to improve the three wheeler paddle rickshaw both for passenger and for cargo, bullock carts and boats. It may be kept in mind that they constitute big source of employment for the poor people.

With this general discussion, we may enumerate the strategies suggested for transport sector in the Third Five Year Plan. These are as under:-

- i) The completion of on-going projects on a priority basis, particularly at and in between points of heavy traffic, present or potential.
- ii) Limiting choice of new projects to economic considerations only.
- iii) Encouraging efficient use of existing facilities through appropriate tariff adjustments on the basis of intermodal transportation economics and liberal provisions of spare parts for maintenance of existing fleets; and
- iv) Promotion of increasing participations of the private sector in the roads and water ways sector.

Strategies for development of different sub-sectors will be as under:-

- RAILWAY:**
- 1) Strategy for this sub-sector is to complete on-going projects and start new projects only on genuine economic ground as it is felt that available facilities with necessary repair and replacement can carry the existing volume of traffic.
 - 2) Signalling and tele-communication system are very important for efficient operation of the railway and as such immediate effort should be made to improve them. The existing facilities suffer from heterogeneity ranging from old obsolete to the most modern ones.
 - 3) Existing repair and maintenance facilities are to be improved. Workshops at Pahartoli and Saidpur for repair of passenger coaches and wagons are to be modernised. A modern workshop for repair of diesel locomotives is to be set up.
 - 4) Training of Officers and staff for maintenance, operation and traffic management is to be intensified. The training academy at Chittagong is to be developed and up-graded.
 - 5) Since Railway has enough rolling assets, it is suggested to procure only minimum number of rolling stock, when traffic demand justifies it.
 - 6) Railway fare and freight rates are at present below cost of operation. Attempt should be made to rationalise fare and freight keeping in view the operational costs and efficiency criteria.

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ROAD AND HIGH WAYS: Strategy for this sub-sector is as follows:-

- i) On-going priority projects should be identified and adequate fund should be provided to complete them.
- ii) High priority should be given for the improvement of national and regional high ways.
- iii) On-going bridges including war-damaged bridges should be completed on priority basis.
- iv) A crash programme should be taken up to develop feeder roads and the upazila connecting roads including construction of bridges/culverts. They should be planned to connect as many growth centres as possible.
- v) The quality of new construction of roads, widening, improvement repair etc. will have to adhere to minimum technical standard required for smooth operation.
- vi) All the roads should be classified and standardised on the basis of traffic volume.
- vii) A certain reasonable minimum amount of maintenance fund should be set aside to keep the roads in good shape.

ROAD TRANSPORT:

- i) Under the policy of privatisation, the private sector is destined to play an increasingly important role in road transport sector. So BRTC shall not be allowed to expand its fleet but be permitted to replace its old and condemned buses. Scale of operation of BRTC is to be kept confined to desired limit.
- ii) A competitive pricing policy should be pursued for both the public and private sectors. Tariff structure should be examined from time to time to ensure covering the cost of operation.
- iii) Existing workshop and other maintenance facilities of BRTC should be optionally utilised so that at least 85% of vehicles are kept on roads.
- iv) Training facilities should be provided for efficient operation of vehicles.
- v) Private sector should be encouraged to participate in larger number in passenger and cargo transport in the road transport sub-sector.

MARITIME PORTS:

The problems faced by the two sea-ports are draft limitations, difficulty in handling of increased volume of containerised cargo and above all optimal distribution of traffic between them in order to make efficient use of existing port and inland transport facilities. Therefore the main strategy for port development is the removal of their difficulties as far as technical and financial conditions will allow. It is projected that by 1989-90, the ports will be required to handle 11.15 million tons of cargo at an efficient and economic way.

The strategy for development of Chittagong Port is (a) Completion of the two multipurpose jetties so that facilities for handling about 90,000 containers are readily available increasing the handling capacity of the port by 6 lakh tons (b) procurement of Dredger for Chittagong port which has a 16 km. long approach channel and needs regular dredging for maintaining a minimum permissible draft of 9 meter.

As regards Chalna Port, the strategy for development should be (a) construction of two more jetties to increase the handling capacity of the port by about 4.5 lakh tons. (b) back up facilities for the completed five jetties such as warehouse, transit sheds, internal roads etc. so that these jetties can provide an additional capacity of 10 lakh tons.

DEEP DRAFT PORT:

In view of draft limitation of the two ports, lighterage is used to discharge large ships at outer anchorage, which is time consuming and costly (annual expenditure US \$ 25 million). So effort should be made to explore the possibility of constructing a deep draft port at Patenga.

JAMUNA BRIDGE:

Efforts should be made to complete the engineering and other technical studies in connection with construction of the Jamuna bridge and to procure adequate fund for its construction.

BANGLADESH SHIPPING CORPORATION:

Bangladesh Shipping Corporation should be allowed to procure vessels on competitive price so that it can handle at least 40% of the import-export cargo of Bangladesh. It should operate on efficient and commercial basis.

INLAND WATER TRANSPORT:

The strategy for Public sector in this field should include on the part of BIWTA the dredging of important navigational channels, provision of navigational aids to ensure night and safe sailing, establishment of Inland Ghats and Launch stations, improvement of existing facilities at various ferry Ghats etc.

BIWTC may be allowed to procure new ferries. It should give emphasis on modernisation and improvement of repair facilities. It may also be allowed to procure coasters or oil tankers on replacement basis.

The strategy for the private sector is that it should be given incentive to expanded to play major role for meeting the increased Water transportation needs. As the policy of the Govt. is to encourage privatisation, it is expected that private sector participation in Water transport will increase substantially in future.

CIVIL AVIATION:

The strategy in this field is the improvement of services at the existing airports through provision of more modern facilities and better maintenance. All the on-going projects like development of Sylhet and Chittagong Airports should be completed. Domestic terminal building at ZIA may be taken in hand to ease pressure on existing terminal.

BANGLADESH BIMAN:

Strategy for development of Biman is as under:-

- 1) All on-going projects like ground Training Centre, Communication Equipment and Assistance to Biman etc. should be completed. Biman hangar complex and mock-up trainer DC-10 projects may be implemented. Flight Catering Centre may be set up and repair facilities for Boeing and DC-10 may be procured. Replacement of ageing Boeing 707 may be allowed. If operationally justified further expansion of Biman's international fleet and route may be sanctioned.

Before I conclude, I would like to emphasise that transport is a very important sector of the economy and all effort should be made to develop this.

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DEVELOPMENT STRATEGIES
IN
SOUTH KOREA AND THEIR
RELEVANCE TO BANGLADESH

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Paper prepared in partial fulfillment of the requirements for successful completion of Senior Staff Course held at the Bangladesh Public Administration Training Centre, Dhaka during October 9, 1985 to January 11, 1986.

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CHAPTER ONE

INTRODUCTION

Korea's remarkable growth is the envy of much of the developing world. The country's exports - worth \$ 52 million in 1962, the year export drive began - passed \$ 10 billion in 1982 and \$ 20 billion in 1981. More than 90 percent of the exports in 1981^{were} manufactured goods, roughly a sixth of the manufactured exports by developing countries. Traditional export products such as wigs, plywood, footwear and textiles have led the way. But by the mid - 1970s, Korean exporters had diversified their array of traditional products and moved into the export of ships, electronics and iron and steel products. Korean exporters have also been diversifying their markets. In 1974 Japan and the United States took more than 70 percent of Korea's exports. In 1980 that share was down to 44 percent, as Korean exporters broke into new markets in Europe, the Middle East and the rest of the developing world. The rapid growth of trade-with exports growing almost 25 percent a year in constant prices and imports, 17 percent a year - led the growth of Korean economy at 9 percent a year during most of the 1960s and 1970s. The success of Korea in promoting rapid economic growth and exports and then maintaining a competitive edge in the world market has been attributed to incentive measures based on an outward looking development strategy. The issues which acted as catalyst in rapid economic progress of Korea are being examined and analysed in the paper.

CHAPTER TWO

HISTORICAL PERSPECTIVE

1. The Republic of Korea (South Korea) was created at the end of world war II by the partition of the Korean peninsula. The country had been occupied by Japan since the early 1900s. During the colonial period agriculture was intensely developed in the southern half of the country to promote exports of food to Japan. There was not much industrial development beyond traditional activities which consisted of crude and semi-processed agricultural and mineral products until 1920. The growth of manufacturing accelerated further after 1930 because of a change in Japanese policy which greatly helped import of modern capital equipment from Japan. Thus by 1940 the south had a modest but significant modern manufacturing sector mainly confined to light industries and machinery production. Most of the heavy industry were in the North.

2. Under Japan's colonial administration, Koreans acquired, mostly on the job, substantial knowledge about how to operate modern industries. The relevant industrial experience was further enriched by the return of several hundred thousand Koreans from Japan after the war from having worked in industry in Japan and Manchuria. The colonial bequest of human capital in trained manpower was considerable. Mason, Jones and Sakong emphasise the importance of learning during the colonial period.

3. Partition in 1945 left South Korea with a majority of the peninsula's population, its most productive agricultural land and the bulk of its light industry. As a result of the departure of all Japanese residents, the cessation of trade with all parts of the former Japanese empire, the Korean economy suffered tremendous disruption at the end of the Second world war. Moreover much of the capital stock was physically inoperative and in need of extensive repair and replacement of parts.

4. Japanese colonial occupation had almost destroyed the landed aristocracy that had previously ruled Korea and a far reaching land reform initiated by the U.S. occupation Government after world war-II was completed by the Korean Government in 1952. This reform along with the economic dislocation caused by the wars and the Japanese departure produced a relatively egalitarian distribution of assets through out the society. Reasonably well educated and often highly experienced, the Korean worker had another important attribute: adherence to Confucian beliefs,, which place a high value on loyalty, punctuality, hardwork, and respect for authority. True, the same colonial experience, the same characteristics of Koreans the same Confucian beliefs could be blamed for inhibiting economic development before the 1960s. But coupled with the right policies, these underlying forces were unleashed to promote rapid development.

5. After Japanese colonialism, the next most important foreign influence on Korean economic development was the close relationship with the United States. Although Korean gained political independence in 1948, when U.S. military rule ended, it continued to rely heavily on the Americans, both militarily and economically, for a rather long time thereafter. American involvement immediately after the war and subsequently was almost exclusively concerned with the existence of Korea as a separate political entity and with sustaining a minimally adequate level of consumption for the Korean populace through commodity inflows. After Korean war, military assistance continued to help assure Korea's independence and political stability in the country. Most of the non-food assistance was for the maintenance and use of existing resources.

6. The relationship with the U.S. nevertheless served to augment Korean resources, both directly and indirectly. American aid resulted in formation of human capital and rapid expansion of primary and adult education and financed overseas training and education for thousands of Koreans, Military

Military assistance helped the Korean military learn modern concepts and techniques of management and organization as well as how to operate and maintain all types of machinery and equipment. For virtually all of the male labour force, military service had been an important source of skill formation and general experience in an organization having many characteristics of modern industry. The Korean also gained some technological mastery from their relationship with the United States. Important channels for the direct acquisition of industrial technology included inflow of technical advisers and modest volume of project assistance which further added directly to Korea's capital resources. The U.S. military was another channel. Its local procurement programme afforded producers in a number of sectors with occasions for assisted by learning-by-doing to meet exacting product specifications. The beneficiaries from military purchases were construction contractors, plywood producers and the tire industry—all would later become major exporters.

7. Adjustments first to partition and then to dislocations caused by the Korean war meant that the structure of the South Korean economy ⁱⁿ 1955 was much the same as it had been at the end of Japanese occupation. As per Korea statistical year book, 1975 manufacturing activities consisted of only 8 percent of GNP in 1955, while half of GNP came from primary sectors. Because of dislocations in the economy caused by the Korean war exports accounted for only 1.4 percent of GNP and manufactured exports were almost absent. Korean industrial expansion from 1955 through the early 1960s was directed largely toward domestic market. Import substitution in light manufactured and non-endurable consumer goods played a major rule. In the late 1950s the growth of exports began to rise gradually. By 1960 their real value exceeded that in 1950 by nearly 16 percent. Both in absolute and relative terms exports in 1960 were small in relation to GNP. In current U.S. dollars total exports accounted for about US \$ 100 million. Only 6 percent amounted to manufactured

manufactured products. The share of total exports in GNP at current prices was only 3.3 percent.

8. Beginning in the late 1950s the Americans initiated action to increase Korean economic independence, the first being a gradual shift from grant aid to concessional lending. It may be mentioned that the overthrow of Rhee regime in 1960 occasioned a pronounced change in policy. The Korean Government began to promote inflows of foreign resources of all kinds. As a result, a rapidly increasing diversification of sources of foreign influence has characterised the period since 1960. In early 1960s since the opportunities for early import substitution rapidly shrank, industrial growth began to falter. During the first half of the 1960s the policy makers were convinced of the need for policy reform and economic liberalization and recognised that rapid economic progress depended upon export-oriented industrialization along with greater efforts to mobilise domestic and foreign resources. In 1964 and 1965 a number of substantial reforms were successfully implemented.

9. Most important were fiscal and monetary reforms. These were designed to enhance public and private saving and establish a uniform exchange rate which was the last step in the gradual adoption of a complete set of export incentives. By 1966 exporters virtually operated under a free trade regime, paying no more than world market prices for inputs, whether imported or locally purchased. They also received substantial Preferences in interest rates and direct taxes. Before the reforms, moreover, many modes of activity in pursuit of the rents associated with the allocation of aid flows and import quotas were highly profitable. The reforms wiped out most of these modes and brought the relative private profitability of different activities more nearly in line with their relative social profitability. It must be recognised that foreign capital as a source of much investment finance played a dynamic role in industrial development of Korea. The share of capital inflows in total investment steadily fell over time. Even during third

five year plan (1972-76) it was 20 percent. It may be mentioned that Korean entrepreneurs made efficient use of foreign capital in flows. Korea's gross incremental capital output ratio of about 2.4 during 1965-75 was much low in comparison with that of other developing countries. In addition, much of the capital inflow during 1960s & 1970s was commercial credit, including private loans having public guarantees. Foreign resources have also been a factor in Korea's success in exporting. Most of the private loans flowing into Korea came from Japan, the USA & Western Europe. The total net foreign capital inflows were \$1,137.6, \$2,261.2 and \$3,733.7 (millions of dollars in current prices) for 1962-66, 1967-71 & 1972-76 respectively. Many of those loans had been suppliers' credits of one form or another. The availability of private foreign capital to Korea had largely been in response to the country's good export performance.

10. The real turning point in both export and industrial growth occurred in the decade after 1965, at the end of a period of trade liberalization and other major policy reforms. The growth of manufactured exports and rise in domestic demand fueled a rate of industrialization that was much faster than before. The average annual rate of growth in the index of manufacturing output had been 11 percent between 1955 & 1965. It increased to 24 percent from 1965 to 1975. Underlying this acceleration, the share of exports in manufacturing output - it was nil in 1955 - rose from about 6 percent in 1965 to almost 25 percent in 1975. In the decade 1965-75, the ratio of total exports to GNP more than trebled, and share of GNP originating in the manufacturing sector more than doubled. Manufactured products constituted 42 percent of total exports in 1965 & 74 percent in 1975. As a result manufactured exports became increasingly diversified so that in 1975 Korea was a major exporter of footwear, transport equipment, electrical machinery & appliances and various manufactures of metal and nonmetallic minerals - in addition to textiles, clothings and plywood, which led the initial growth of exports. Because of Korea's poor natural resources endowment, resource allocation along the lines of comparative advantage required an increase in the share of trade in economic activity. As a result, the trend of the share of imports in the supply of tradables had been upward, though import substitution had been important in particular sectors at

at different times. Cement, metals, chemicals, fertilizer and more recently transport equipment and machinery are among the sectors in which import substitution, Often fostered by Government promotion, has been important since 1960. Apart from light manufacturing sectors, the chemicals and mechanical engineering sectors are relatively large and rapidly expanding.

11. It is apparent from the above short description that Korea's strategy of export-led industrialization is similar to the postwar pattern of Japanese industrialization in its reliance on rapid export growth. Indeed Korean policy makers were well aware of the lessons of contemporary Japanese economic history. But in helping to formulate the policy reforms that led to implementation of Korea's export-led development strategy, before it became readily apparent that Korea could emulate Japan, American policy advisers had an equally important influence. To that degree that foreign influences had an effect on economic policy, they had been fundamentally important, because they would have operated on the incentives and other policy instruments that affected resource mobilization and allocation across the entire economy.

12. Almost every indicator of development performance improved dramatically after the mid 1960s which may be seen at Annexure 'A'. The annual growth of real per capita income rose from 2.1 percent in the decade before 1965 to 8.1 percent in the decade that followed. By 1975 Korea's population of more than 34 million enjoyed a percapita income about US. \$ 500 (in current US dollars). The economy also performed well with respect to employment and income distribution. Within the decade 1965-75 total employment was estimated to have increased by 3.7 percent per annum, while the population over 14 years was growing at 3.2 percent annually. Real wages in mining and manufacturing rose at an average annual rate of 7.8 percent during this period.

CHAPTER THREE

EXPORT INCENTIVE POLICIES AND THEIR ADMINISTRATION :

1. Industrial incentive policies, particularly those supporting export expansion and import substitution played a major and dynamic role in Korea's economic transformation. The history of Korean incentive policy changes is one of continual movement toward an increasingly open economy characterised by major liberalization in the mid 1960s. In Korea there have been two key systems for administering the basic export incentives one for granting unrestricted and tariff-free access to the imported intermediate inputs needed for export production; the other for granting automatic access to bank loans for the working capital needed for all export activity. Korea also has not shied away from periodic devaluations. These have ensured that domestic inflation, regularly in excess of world inflation, would not lead to substantial & sustained overvaluation of the real exchange rates for exports. The exporters' costs of temporary overvaluation have been compensated for in part by preferential interest rates. The underlying objective has been to remove the bias against producing for export and to give the exporters just the incentives they require to be on an equal footing with producers from other countries in competing in world markets.

2. The following table shows the composition of export incentives in 1968 :

Table - I.

Form of Incentive		Value of Incentive as percentage of total Merchandise Exports.
Tariff Exemptions	-	14.4
Indirect Tax Exemption	-	7.0
Wastage Allowance	-	2.4
Overhead Rate Reductions	-	0.4
Direct Tax Reductions	-	1.1
Indirect Subsidies	-	4.5
Total	-	29.8

Source : Larry E. Westphal & K Wang Kim, "Industrial Policy & Development in Korea" World Bank Staff Working Paper, No 263, 1977, P-3-39.

3. The unrestricted, tariff-free access to imported inputs establishes a free trade regime for export activities and allows producers to choose between suppliers at home and abroad when purchasing their intermediate inputs for export production. They can thus buy those inputs at world prices and suffer no disadvantage in the prices they pay for their raw materials. The access to bank loans for working capital for export production was automatic because the central bank automatically rediscount the export loans that commercial banks make to firms. Would-be exporters can be easily discouraged from producing for export if the access to imported inputs and export loans is discretionary and slow. The guiding principle in creating the free trade regime and in providing export loans for working capital has been to treat all export activity the same way.

4. With the access to tariff-free inputs and export loans automatic, the exchange rate and the preferential interest rates have been adjusted from time to time. But the real fine tuning of the export incentive system is in the administrative arrangements that govern the day to day transactions between firms and export bureaucracy. The incentives can not be right if firms do not have access to them. Efficient administrative arrangements are thus essential in designing, implementing, and maintaining the right incentives. With this Korea could not have had the right incentives. There nevertheless are requirements for documentation to prevent abuses and to provide information on exports. For example, with a free trade regime for export activities and a protected regime for domestic production, exporters could increase their earnings by selling final products or intermediate goods on the domestic market rather than use those intermediate inputs for export production. To prevent this, the purchase of intermediate inputs are strictly tied to the amount needed to produce the export and with access to bank loans automatic for export activity, exporters might try to use the funds so acquired for production on domestic market. So the issuance of loans is strictly tied to the working

capital needed to produce the export. The Commercial banks and the Bank of Korea administer the export loans, except those handled by Export-Import bank for deferred buyers.

5. To receive short-term loans for the working capital needed for export production or to have tariff-free access to imported inputs, export producers need three main things; documentation of actual or expected export orders, an input coefficient certificate, and documentation of completed exports. Export letters of credit or other export contracts that exporters receive from foreign buyers have been used to document actual direct export orders. To document actual orders for indirect export - that is, intermediate inputs supplied to another Korean firm for its export production or finished goods supplied by one Korean firm to another Korean firm, which exports them - the Koreans have used the domestic letters of credit. To document expected orders, the Koreans have used records of a firm's past direct and indirect exports.

6. Unique to Korea, the domestic L/C is the best example of innovation by the Korean export administration. The instrument was introduced in 1965 and has since been crucial in providing automatic short-term export loans for working capital and unrestricted access to intermediate inputs - for Korean manufacturers that export indirectly through other Korean firms. With a domestic L/C, which is issued by an exporter's bank on the basis of direct export order, the indirect exporter can qualify for the same incentives as the direct exporter. The domestic L/C thus breaks the usual barriers that limit the provision of export incentives to final exporters. This broadening of free trade regime has been important in drawing smaller firms into export production in Korea and inducing them to produce goods of international standard.

7. Direct and indirect exporters also need an input-coefficient certificate and documentation of the completed exports. An input coefficient indicates how much of an input is needed per unit of output and determines the volume of intermediate inputs that can be imported without restriction. The input-coefficient administration publishes a list of these coefficient for most export commodities.

8. Since 1975 the tariff exemptions have been administered under a drawback system exporters pay tariffs and indirect taxes when importing their intermediate inputs; they receive rebates after documenting the completion of the export. Exemptions previously were granted at the time of the import of intermediate inputs on the basis of actual or expected export orders.

ADDITIONAL INCENTIVES

9. The basic incentives in Korea have been the tariff-free access to imported inputs and the access to bank loans for working capital. These automatic incentives, together with the exchange rate, are the foundation of the Korean system of export promotion. There nevertheless have been additional incentives used to reduce the bias against exporting. Most of these incentives are no longer used. They include income tax reductions, the rationing of medium-term and long-term loans for investment, wastage allowances, which were selectively used to spur certain exports by increasing the input coefficient allowable for imported inputs for those exports, thereby giving producers duty-free imports that could be used for production for the domestic market, reduced rates for electricity and rail transport and tariff exemption on imports of capital goods. Among these incentives the most important was the provision for converting export earnings into foreign exchange certificates that were traded at a premium in a free market. Through the export import link system, holders of foreign exchange certificates were entitled to import certain popular items not otherwise approved for import. Exporters also receive direct subsidies in won, at rates that depended upon the type of export, and a small subsidy in the form of loans at preferential interest rates. Under an export-import-

expot-import-link system, imports of a large number of otherwise prohibited or restricted items (mainly luxury items that could be sold for a high profit) could be financed by export earnings. Only a few of these incentives are still in force; most notable among them are tax incentives for overseas marketing, the postshipment export loans by Korean Export-Import Bank, and a system of export credit insurance and guarantees. There are, in addition the provision of basic infrastructure to smooth the flow of export goods and creation of free tradezones and industrial parks. Finally the Korean Traders Association and the Korea Trade Promotion Corporation promote Korean exports throughout the world on behalf of Korean firms.

10. The rationing of longer term domestic and foreign loans was, until early 1980, one of the most important instruments of Government control over private firms. It was effective for three reasons-First the Government controlled the domestic banks to the extent that it was a major shareholder and had the power to appoint manager (the ownership of commercial banks has recently been transferred to the private sector). Second, the Government controlled the inflow of foreign capital, which has accounted for a high percentage of the Corporate borrowing in Korea. Third, the Government, through the Central Bank and the Ministry of Finance has controlled interest in the formal banking sector. Taking advantage of these loans, Korean firms have been able to expand rapidly. Some firms, such as those in the tire industry, would not have gotten off to such an early and successful start without long-term investment capital at preferential rates. And with high debt-equity ratios, most firms, particularly the biggest ones, have relied for their continuing success on an open tap for the flow of bank loans for investment capital. The rationing of longer term bank loans has thus given the Government considerable leverage over firms. The Govt. has used this leverage selectively as a carrot to draw firms down new paths of exporting and to export more than they might otherwise have. Credit rationing then, has been effective in adding to the Government's ability to induce firms, particularly large firms, to carryout its policies, especially those for export promotion. If the banks

banks had been privately controlled by large corporations as in Japan the country probably would not have achieved as effectively the Government's objectives for the growth of exports and the economy.

11. The automatic access to working capital for export production is one major contribution of Korea's financial system to the country's success in exporting. But in view of the rapid growth of efficient export industries, the rationing of investment capital is another, perhaps equally important, contribution. This is not to say that such rationing was always efficient. Mistakes were made along the way, particularly in the later 1970s, when there was over investment in heavy import substitution industries. But these recent developments should not overshadow the contribution of the Korean financial system to export promotion in the 1960s and 1970s.

EXPORT INCENTIVES.

12. The real exchange rate for exports, despite annual fluctuations remained fairly stable between the mid 1960s and the mid 1970s. The rate for imports, though lower than that for exports before the mid 1960s, rose to that for exports and ran parallel it for much of the period. The system of export incentives thus had two important effects. It reassured exporters of the permanence of Government policies designed to remove the disincentives to exporting. And it kept the profitability of production for the export market on par with that for the domestic market. The system thus contributed to export drive by removing the bias against export production and giving exporters just the incentives they needed to be on an equal footing with producers from other countries.

CHAPTER FOUR

KEY INSTITUTIONAL MECHANISMS

1. Korea's incentive measures would not have been right and the administrative arrangements for those incentives efficient without some special institutional mechanisms to provide information for determining and adjusting them. Two institutional mechanisms may be mentioned in this regard: the system of setting export targets and the practice of holding monthly national trade promotion meetings. These two institutions have been important parts of the institutional framework that have helped translate political resolve into bureaucratic resolve. They have also provided information needed for bureaucratic action.
2. To understand the operation of those mechanisms, it is necessary to have some idea of synergistic partnership between Government and business in Korea. For Korea's incentive system to have been so effective has taken the commitment of the political leadership to economic growth. It also has taken an efficient bureaucracy. In Korea, that commitment has been so strong that it did more than foster the efficiency of the bureaucracy. The commitment unified all economic agents in Korea in a common undertaking-the drive to develop through trade-and in the process forged a partnership of firms, banks, bureaus, universities and provincial Governments, led by the President and supported by the top economic ministers and the heads of the big firms, much of the country was wrapped up in the fervour and enthusiasm surrounding the drive to develop through trade. And partnership goes far beyond the one between Government and business, for it also embraces political parties, research and educational institutions, indeed the entire institutional framework. There naturally have been many institutional mechanisms to support the inner workings of this partnership. But without two special mechanisms - the system of export targets and practice of holding

holding monthly trade promotion meetings it is unlikely that the entire system of export promotion would have been so effective, that the various incentives would have worked so well, and ultimately that Korea's export performance would have been what it has been. In short, the targets and monthly meetings have, in conjunction with the rest of the institutional framework, unified the entire array of export incentives and have been a catalyst for the workings of the synergistic partnership between Government and business.

3. The export targets basically are projections by firms. In aggregate, they show the Government what to expect and what the requirements will be for finance, infrastructure, and other activities in support of the export drive. The monthly meetings basically are reviews of progress toward the export targets. Chaired by the president and attended by economic ministers and leading businessmen, the monthly meetings regularly bring the country's political leadership face to face with the representative of the main economic agents in the country. And by focussing on progress toward targets, the monthly meetings bring out problems and instill in top bureaucrats the desire to have all proceed well in their domains. And by airing problems, the monthly meetings foster attempts at immediate solutions. The targets and monthly meetings thus do more than make known how firms are doing. They also make known how Government agencies are doing.

CHAPTER FIVE

SELECTIVITY IN TECHNOLOGY

1. Technology may be defined as a complex array of procedures needed for the design and operation of products, processes, plants, and organizations. Acquisition of these procedures both local and foreign is in large part determined by the technological capability that has been accumulated by the individual, the firm and the country. Apart from experience in production it comes from conscious efforts to adapt, assimilate and create technology.

2. Korea has been successful in acquiring and adapting technologies from different sources both local and foreign. The following table demonstrates relative importance of sources of process technology.

Table - 2 Relative importance of sources of process technology.

Source	Percentage composition of responses indicating a source to be important		
	Traditional export.	Non-traditional exports.	All Exports
<u>Domestic</u>			
Licensing & technical assistance.	3.6	2.4	3.0
Experience acquired by personnel through previous domestic employment.	12.3	8.7	10.5
Suppliers of equipment or materials.	6.2	3.2	4.8
Buyers of output	<u>3.1</u>	<u>5.0</u>	<u>4.0</u>
Sub Total -	25.2	19.3	22.3
Govt. supported institutes	8.7	9.2	9.0
Local knowhow	<u>21.8</u>	<u>15.7</u>	<u>18.9</u>
Total domestic -	55.7	44.2	50.2
<u>FOREIGN</u>			
Licensing & technical assistance	11.8	20.7	16.0
Experience acquired by personnel through previous overseas employment.	9.0	18.0	13.2
Suppliers of equipment or materials.	12.3	8.9	10.7
Buyers of output	<u>11.0</u>	<u>6.7</u>	<u>9.0</u>
Total foreign	44.1	54.3	48.9
Unidentifiable	<u>0.2</u>	<u>1.5</u>	<u>0.9</u>
Total -	100.0	100.0	100.0

Source : Korean Industrial Compelince where it came from World Bank Staff working Paper No. 469, July 1981.

Exporting firms identified sources for their principal products and process/^{about half} were Korean. Much of the technology obtained from Korean sources originally was foreign, but it has been so adapted and assimilated as to be considered Korean. Foreign sources were more important for modern industries than for traditional industries. Korean sources were regarded as more important by traditional firms. Of the various categories of sources, buyers of output and suppliers of capital equipment and raw materials were cited as being most important frequently. Foreign buyers and suppliers were considerably more important than Korean buyers and suppliers. Foreign buyers and suppliers provide access to information about what product styles are wanted and about how to make products of a desired style. They come in, too, with models and patterns for Korean engineers to follow, and they even to^{go}/out to the production line to teach workers how to do things.

3. The second most important source of technology was technical staff with experience in other firms. Such transfers of labour were ranked as an important source. Once again Korean sources were more important than foreign sources for traditional industries less important for modern industries.

4. Local technical know-how has also been cited as an important element in the industrial growth of Korea. This know-how is not only traditional to Korea in the sense of being well established but also it covers technology that may have come from foreign sources fairly recently. The firms have internalised them. Local technical know-how has been termed as 'localised technology' or "incremental, locally generated technology". Technical assistance from Korean buyers and suppliers of capital equipment and raw materials were considered to be an important source as were government supported research institutes and information services. Of foreign sources, licences from abroad and technical assistance from foreign affiliates were considered to be important source of technology.

5. Two examples show the kinds of product and process for which foreign and Korean sources have differed in their importance. A big textile company said that traditional Korean know-how and technical assistance of Korean machine suppliers were important as sources for technology for producing cotton yarn. In case of a newer product, acrylic yarn, technical staff with experience in foreign factories and technical assistance from foreign companies became essential. For the design of ships, a modern product, the following sources were important : Technical staff with experience in foreign ship yards, technical assistance from foreign companies and licensing from foreign firms. But for less complicated tasks of production engineering, all the important sources were Korean.

6. For most industries in the traditional sector, local technical know-how and technical staff who previously worked for Korean producers were the most important domestic sources. Of the foreign sources for these industries, licenses were less important than either technical assistance from foreign buyers or that from foreign suppliers of capital equipment and raw materials. The fishing industry relied heavily on foreign buyers, the cement industry on foreign suppliers of capital equipment and on technical staff who worked in foreign factories. Of the foreign origins of technology, Korean exporters have been relying most heavily on Japan, next on the USA and then on West Germany. Korea has benefited more from the reliance on Japan than if it had imported technology directly from Western countries, because the differences between the two countries in factor endowment & social and cultural structure are much less than those between Korea and Western countries. Moreover differences in factor prices make it possible for Korea to take over industries in which Japan is losing comparative advantage such as textiles.

TECHNOLOGICAL CAPABILITY

7. The findings on the sources of technology show that Korean entrepreneurs were often able to unbundle the packages of foreign resources - packages consisting of technicians, and manuals as well as managers and investment capital. Because they had mastered the operation of some technology, their skills could be used in managing and operating similar technology for other products - and in importing only the additional technology they needed. Korean technological capability, augmented by information by foreign buyers and suppliers, thus supplanted licensing and direct foreign investment as means of acquiring technology. Korean firms used licensing and direct foreign investment not to replace the local effort to develop and master technology, but to start that effort. These efforts naturally broadened their capability for future efforts.

8. An important element of all this was the policy of Govt. for technology import. The Korean Govt. did not allow firms to bring in whatever technology they wanted. With typical craftiness the Koreans had a stated policy for imports of technology that was liberal but also vague so that discretion could reign. So they imported technologies which could fill up the gaps and were not bundled with a lot of excess baggage. Even for the infant industries, the Government imposed discipline early on by pushing them to export. By doing all this, the Govt. encouraged firms and the local efforts to adapt technology and to import only what was needed. The Koreans thus were selective in the amount of technology and other baggage that came with each transfer of technology from abroad. They were also selective about the industries for which the more expensive bundled technology could be acquired through licensing and direct foreign investment : steel, shipbuilding, electronics, and some chemicals are the most important examples.

9. Korea in the 1960s and 1970s fostered the adoption of strategies by firms to embark on conscious technological efforts. Exporting in itself was the basis for some of this effort.

As a result, Korean exporting firms made an effort to close technological gaps. For some products and industries, those gaps were large, and firms found it to rely initially on licensing and direct foreign investment for their technological inputs. For other industries and products, the gaps were much smaller, and firms found it necessary to rely on outside resources only for few technical inputs they could not provide. There thus appear to have been conscious efforts to be selective in importing technology and in accumulating more and more technological capability and thereby to have local technological resources in successive transfers of technology.

10. By following this course the Koreans got a lot of mileage from their investment in technology. Because they could unbundle the elements of imported technological packages, they did not waste money unnecessarily on the excessive baggage that often is a part of such packages. Nor they kept out of production activities in which they did not possess the needed capability. They simply substituted foreign for local capability until the local capability could be developed.

CHAPTER SIX

EXPORT MARKETING

1. Marketing of exports calls for tremendous efforts by producers or by trading companies acting on their behalf - to sell their products in the importing countries. At best at the outset, Korean firms have shown that it is possible to be successful in exporting by letting buyers do much of the marketing during early stages of export development.
2. Before export markets can be developed, foreign buyers and Korean sellers must somehow contact each other for the first time. In Korea several institutions develop these links.
3. First the Govt. has assisted exporting firms in their relations with foreign buyers by creating and financing Korean Trade Promotion Corporation (KOTRA). It maintains about a hundred trade centres around the world to provide information about Korean exporters and importers, the commodities they buy and sell, and the services they need and provide in foreign investment and construction work. It has a number of publications which provide upto-date information on trading opportunities to Korean exporters and importers and document a catalogue of Korean export products. KOTRA also receives foreign visitors, introducing them to Korean businessmen and government agencies and hold trade shows throughout Korea and the world. Second many institutions follow international market developments and assemble information for Korean exporters.
4. Third, Foreign firms that specialise in international trading activity have been by far the most important buyers of Korean exports. In fact they were ranked first in importance in nearly two-thirds of the export market represented. Whole-salers and manufacturers were ranked as important considerably less than half as often as foreign firms and only slightly more than the exporting firms' network of overseas branches & affiliates. Some manufacturers rely on Japanese trading companies to develop their foreign markets not only in Japan but in most of the world including the U.S.A. In doing this they

take advantage of the vast international network built up during Japanese export expansion. Other firms use Korea's general trading companies which have been encouraged by strong Govt. policies to develop along the lines of Japan. The incentives for general trading companies have included preferential loans for stock piling export commodities and higher ceilings on the foreign exchange holdings of their overseas branches.

5. Apart from the initiatives taken by foreign buyers in the sale of Korea's exporters, Korean initiatives have played a leading and dynamic role in establishing entry in individual new markets. It has been done through visits overseas by firm's staff/representatives and also discussions following trade fairs, enquires from other Korean firms and enquiries from other traders and industry associations. Almost half of Korea's recent penetration into new markets has been the outcome of Korean initiatives. It should also be noted that Korean initiatives are relatively more frequent outside Korea's traditional markets than within them. Thus Korean initiatives are indicated to be sources of the initial contracts in 100 percent of the market entires in Latin America, 54 percent in the Middle East and 50 percent in Africa. The figures shown in the table - 3 below indicate the relative importance of different kinds of export buyers and foreign participation in marketing Korea's exports to final overseas purchasers.

Table - 3 Relative Importance of Different Buyers of Korea's Exports (Percent)

Kind of buyer	Percentage composition of Korean exports.
1	2
1. Importer	38.9
2. Wholesaler	14.6
3. Manufacturer	14.3
4. Exporting Firms own overseas branch or affiliate	11.3
5. Japanese Trading Company	9.0

1	8	2
6. Retail chain or departmental store		4.1
7. Korean Trading Company		3.7
8. Foreign parent company		0.7
9. Others		3.4
All		100.0

Sources : World Bank Staff Working Paper ; July 1981 (Page-61)

The relations between Korean firms and foreign buyers went far beyond the negotiation and fulfillment of contracts. They had directly benefited from the technical information foreign buyers provided : through visits to their plants by engineers or other technical staff of the foreign buyers, through the provision of blueprints and specifications through information on production techniques and on the technical specifications of competing products and through feedback on the design, quality and technical performance of their products. The requests and recommendations of foreign buyers influenced the design, style, packaging or technical specifications of products exported. Some of the exported products were made directly in accord with designs, patterns or other specifications supplied by foreign buyers.

6. The experience of Korea show that in early stages of export promotion marketing does not have to have the highest priority for many products. Government supported marketing initiative are needed until private firms can develop their marketing capabilities. But in the meantime foreign buyers will perform many if not all of the marketing tasks if prices and quality are acceptable and if deliveries are reliable. The experience of Korea also shows what is needed to attract foreign buyers and to get the export-marketing ball rolling mainly the ability to produce an internationally competitive product and the desire to do everything needed to court those buyers. An important part of this is to create an environment in which the right incentives are determined and then granted to unleash private initiatives in production and international competition.

7. Korea in the 1960s and 1970s selected ways of marketing products that initially relied heavily on foreign buyers but were gradually taken over by Korean firms. It followed the middle path of mastering marketing-learning by watching-rather than continue to rely on buyers and rather than invest vast sums to set up its own elaborate marketing network at the outset. The choice enabled Korea to proceed slowly and sensibly in marketing. In addition to the decided advantage of learning marketing techniques before investing in marketing, the advantages stemming from contacts with foreign buyers - in guidance about styles, designs, and production and management techniques - were considerable. Only later, after Korean firms had learned enough - from foreign buyers and became more confident about marketing, were a few large general trading companies deliberately encouraged by the Government to take on more of the tasks on marketing. In so doing, these general trading companies have been able to exploit economies of scale in gathering information, in exploring new markets and in establishing overseas sales network. By 1982 these companies embraced 200 affiliated firms in Korea and were making half the country's exports. As Korean exports move the technological scale, the general trading companies will be at the heart of the effort to supplant foreign marketing activities.

CHAPTER SEVEN

THE RELEVANCE OF KOREAN EXPERIENCES IN BANGLADESH

1. From the previous analyses the outward-looking development strategy has been a major tool for rapid and phenomenal economic growth of Korea. The question, now, arises whether the policies and strategies adopted by Korea in its march to economic development have any relevance in Bangladesh. In other words whether Bangladesh can gain something from Korean experiences and adapt them successfully to its development endeavour. Many elements of Korea's success do not or will not pertain to Bangladesh because of uniqueness of those elements to Korea and Koreans. Some of the more important lessons of Korea's experiences relevant to Bangladesh are discussed.
2. Gradually Bangladesh has introduced a wide variety of export incentive measures over the years to manage entry into world markets by removing many disincentives to exporting. The duty draw back scheme adopted by Bangladesh and designed to guarantee exporters access to raw materials and intermediate inputs is subject to complex administrative procedure & considerable uncertainty about their availability. So the incentive has not proved to be effective. The other incentive measures such as export financing and export performance benefit (XPB) are also encountering difficulties in their successful operation so far the exporters are concerned. The administrative arrangement for this are critical. In order to make these incentive measures efficient and effective, and instrument of economic growth Bangladesh should simplify the existing administrative procedures by removing lengthy verification procedures and uncertainty about the actual amount and timing of duty reimbursements. The payment of duties and the provision of export loan for production of export goods - should be made automatic in the administrative system as was done in Korea. To prevent the abuses of incentive measures by the exporters who can increase their earning by selling

selling final products or intermediate goods on the market rather than use those inputs for export production, the purchases of intermediate inputs may strictly be tied to the working capital needed to produce the export. The instrument of domestic L/C may be introduced in Bangladesh in providing automatic short-term loans for working capital and unrestricted access to intermediate inputs for Bangladeshi manufacturers that export indirectly through other Bangladeshi firms. With a domestic L/C the indirect exporter can qualify for the same incentives as the direct exporter.

3. ~~Bangladesh~~ Bangladesh economy is characterised by over valued exchange rate which makes exports costly and imports cheap. So the exchange rate should be adjusted from time to time so that exports can remain competitive in the world markets. Distortions exist in capital markets of Bangladesh. These distortions have been caused by Govt. policies that result in high unstable rates of inflation, tendency to keep interest rates low and credit rationing. They have discouraged the holding of financial assets, adversely affected volume of savings, allocations of savings among alternative investments, encouraged consumption at home, low rate of return on financial assets and worsened the inequality of income distribution & employment. These have affected exports & industrialization. Bangladesh should eliminate these distortions by monetary reform as Korea did in 1965 leading to expansion of output and increase of exports.

4. Similarly in Bangladesh the distortions in labour market have increased the cost of Labour by operation of minimum wage legislation, fringe benefits and union pressure. These have discouraged the growth of employment in modern industrial sector. Institutional mechanisms are very important to gather and disseminate information needed to design, implement and maintain export incentives and ensure export promotion. In Bangladesh the institutions lack the ~~thrust~~ ^{thrust} dynamism and efficiency to carry out export incentive policies and therefore have not helped translate political resolve into bureaucratic action. So Bangladesh must

must consciously develop and revitalise these institutions so that they can play a catalytic role in increasing the efficiency of information flows and thus in increasing the efficiency of the incentive system.

5. For export incentives to be right, for the administrative arrangements guaranteeing access to those incentives to be efficient and for institutional mechanisms for adjusting those incentives to be effective in Bangladesh there must be the single-minded commitment of the political leadership to the out ward looking development strategy based on international competitiveness. The commitment will foster an efficient bureaucracy & unify all economic agents in the country in a common task. In Korea continuity of the Govt. and its policy and the ability of the Govt to impose its policy helped convince the exporters about the long-term prospects for policies that favour international competitiveness. In Bangladesh similar political stability and continuation of consistent policies are essential for efficacy of such policies. If policies change frequently, the exporters & entrepreneurs will be reluctant to invest in any project requiring substantial commitment of their own funds yielding a normal rate of return. A national consensus needs to be built up in Bangladesh for effectiveness of such policies.

6. In Bangladesh the domestic manufacturing industries are protected by import prohibition & quantitative restrictions resulting in high cost of production. As a result investment is attracted to industries that are highly protected because they yield high financial rates of return even though investment opportunities may exist that require less capital and employ more labour but enjoy lower rates of protection. It will lead to growth of inefficient industries. The protection given to domestic manufacturing industries should be withdrawn over time (say 7 - 8 year) so that they can become competitive and efficient and lead to more growth and export.

7. Another ingredient of successful exporting is the selectivity of firms in acquiring and mastering technology, so that indigenous firms can progressively supplant foreign technological resources by local resources. But in Bangladesh technological base is rather poor. Bangladeshi firms with Govt. support must be engaged in purposeful effort to broaden technological base by providing more training in operating machines and equipments and to master new technology. It will not only help increase their proficiency in production but also enable them to rely less on foreign resources, more on their own, in successive acquisition of additional technology. Licensing and direct foreign investment must be used to fill in gaps in early stages of an industry's development. If Bangladeshi industries cannot internalise the technologies, improve upon it over time, productivity will not enhance and firms will lose competitiveness in the international markets.

8. Since Bangladeshi export firms donot have enough marketing expertise to penetrate new markets, with the help of the Government, firms should create conditions to attract foreign buyers to do the job of marketing. This arrangement will enable them to gain experience by observing the mechanics of marketing and begin whittling away at some of the marketing tasks that foreign buyers performed. Efforts must be made by Government to setup general trading companies in the private sector to undertake the exporting business of different firms. They must be given some concessional loans to undertake the operation. Arrangement may be made with foreign trading companies to promote Bangladeshi exports in new markets. This is a price Bangladesh must pay to enter overseas markets. Bangladesh lacks an efficient international communications by mail, telex, and telephone and efficient transport by air and sea for promotion of exports. This basic infrastructural requirements must be ensured to exporters for quick transaction of business in overseas markets and timely delivery of goods to buyers. It is an impediment which is hampering export trade in Bangladesh.

9. The value of export earnings during the year 1983/84 was Tk.1,990.19 crore. The value of export earnings during 1984/85 has been revised at Tk.2,375.00. On the other hand the value of imports for the year 1983/84 was estimated to be Tk.5,852.00 crore and for the year 1984/85 Tk.7,155.00 crore. Thus deficit in the balance of trade during 1984/85 would be Tk.4,780.00 crore and Tk.3,861.81 crore during the year 1983/84. This huge deficit has posed severe strains on the economic development of the country and greatly inhibit its ability to continue to import needed capital and consumer goods. Since limiting imports under the present circumstances will spell disaster for many people one option is to improve the deficit by promoting export expansion. Without increasing our export earnings the economy will face serious difficulties in meeting the import requirements of inputs for operating import substitution industries.

10. The problem may arise whether Bangladesh by following exported growth strategy to promote exports, can penetrate overseas markets particularly the those of developed countries in view of growing protection in developed nations against manufactured exports of LDCs. At least in the short-run primary commodity exports especially agricultural products from Bangladesh to developed countries donot have much potentialities because income elasticity of demand for them are less than unity. The prospects for their exports to Third World are likely to increase with expansion of their markets as result of economic development. But with quality improvement and reduction of production cost, ~~xxx~~ moderate expansion can be expected from these sources. With regard to exports of manufactured goods, export potentialities of Bangladesh manufactured goods are fairly prospective, because income and price elasticities of international demand for manufactured goods in the aggregate are high^{or} than for primary commodities. The prospect is being gradually threatened by the growing protection in developed nations against manufactured exports of developing countries. But Bangladeshi manufactured exports are not likely to be threatened by protectionist policies adopted to

adopted by the developed countries atleast in the short run because most exports of agricultural and manufactured products from Bangladesh enjoy duty free entry into developed countries either on an m.f.n. or on the basis of GSP or of special concessions offered to the least-developed countries in the framework of the GSP. More than half of Bangladesh exports are shipped to developed countries. With diversification of Bangladesh's exports and aggressive promotion of markets in developed, developing countries and centrally-planned economies, the export markets can be significantly expanded both in the short and long-term.

11. Korea has shown above all that with a strong political commitment to international competitiveness and with effective institutions, an able bureaucracy, aggressive businessmen, disciplined workers, and the right incentives, it is possible to have world trade lead a country's economic growth and development. Such growth and development in turn benefits the trading partners and contributes to global trade and development. There naturally are nay nosayers who maintain that exporting these days is a dead end for developing countries. But the experience of Korea shows that it is possible to survive, indeed thrive in world markets, if there is a clear strategy for dealing with the changing conditions in those markets. If every country is trying to increase its exports, who is going to be doing the importing? Yet Korea, precisely because of its competitive edge, is & will continue to be a major importer of goods from throughout the world. Korea thus exemplifies the growth of a healthy interdependence among countries-an interdependence that can only contribute more and more to world trade and development. Bangladesh can be well along the industrial trajectory if the experiences gained from Korea are sifted and applied with necessary changes to its specific conditions.

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ANNEXURE 'A'
KOREA: MAJOR ECONOMIC INDICATORS 1955-75.

Indicator	1955	1960	1965	1970	1975
<u>Computation of GNP per Capita</u>					
GNP (thousand million won; 1970 prices)	938.2	1,129.7	1,529.7	↓ 2,589.3	4,107.7
Population (million persons)	21.5	24.9	28.3	31.4	34.7
GNP Per Capita (thousand won; 1970 prices)	43.6	45.3	54.0	82.4	118.4
<u>Percentage shares of GNP (1970 prices)</u>					
<u>Value added in :</u>					
Primary Production	47.5	42.6	41.0	29.2	23.0
Manufacturing	7.9	10.8	13.9	21.5	31.9
Social overhead	4.2	6.0	8.5	13.3	13.7
Services	40.4	40.6	35.6	35.9	31.4
Gross Investment	10.0	8.6	12.9	27.2	26.3
Exports of Goods and Non-factor Services	1.4	2.4	5.2	14.7	28.3
Imports of Goods and Non-factor Service.	11.2	10.4	9.8	24.8	27.2
<u>Percentage Shares of GNP (Current prices)</u>					
Government Revenue	10.5	19.3	16.1	20.1	19.7
Government Savings	0.8	4.1	5.7	7.5	3.6
Total Domestic Savings	3.7	1.6	7.7	17.1	17.7
Gross Investment	11.9	10.9	15.1	27.2	27.1
Exports of Goods and Non-factor Services	1.5	3.3	8.5	14.7	30.2
Imports of Goods and Non-factor Services	9.8	12.6	15.9	24.8	39.6

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ANNEXURE - 'A'

Compound Annual Growth Rates(percent)	1955-60	1960-65	1965-70	1970-75
GMP (1970 prices)	3.8	6.2	11.1	9.7
GMP per capit (1970 prices)	0.7	3.6	8.8	7.5
Manufacturing Value Added(1970 prices)	10.3	11.8	21.3	18.5
Index of Manufacturing output	12.0	9.5	24.2	23.2
Total Exports (1970 prices)	16.3	24.0	36.5	25.0
Population 14 years and Older	n.a.	2.5	2.8	3.6
Economically Active Population	n.a.	2.7	2.9	3.9
Employment				
Total	n.a.	2.4	3.5	3.8
Manufacturing	n.a.	12.2	10.7	11.4
Real Wages				
Average in Mining and Manufacturing	5.1	3.1	7.1	8.5
Agricultural Labour	n.a.	- 0.1	8.2	1.5
Prices				
GMP Deflator	12.0	19.3	13.7	15.1
Wholesale Price Index	10.2	17.2	7.9	18.9

n.a. Not available

Note : Figures may not reconcile because of rounding.

Sources : Development Strategies in semi-Industrial Economies,
A World Bank Research Publication. P-213

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