

EXPERIMENTAL ALTERNATE OPTION TO PRIVATIZATION OF WATER INDUSTRY IN DHAKA - BANGLADESH

M.Z.Hoque
Bangladesh

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ABBREVIATIONS

BETS	Bangladesh Engineering and Technological Services Chief Executive Officer
CEO	
DESCO	Dhaka Electric Supply Company
DPHE	Department of Public Health Engineering
DTW	Deep Tube Well
DWASA	Dhaka Water Supply and Sewerage Authority
EC EPC	Employees Co-operative Engineering and Planning Consultants
GOB HQ	Government of Bangladesh Head Quarters
IDA	International Development Agency
mid	Million Liters per Day
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
Ord PA	Ordinance Per Annum
SAR	Staff Appraisal Report
SOE	State Owned Enterprise
UFR	United Front of Resistance
USAID	United States Agency for International Development
WB	World Bank
WTP	Water Treatment Plant

Summary of Points

1. Background of DWASA

- DWASA was created in 1963 as a public sector utility to cater for potable water, sewerage and storm water drainage of the capital city of Dhaka as per a Master plan prepared on the basis of maximum of 2-story housing
- IDA financed the foreign exchange cost of the 1st DWASA project on the condition the Authority would run on commercial basis
- The Master plan failed after Dhaka became national capital of Bangladesh in 1971 when the city started growing both vertically (multi-storied buildings) and laterally.
- Responsibility of water supply of adjoining port city was handed over to DWASA in 1990.

2. The Fourth Project of DWASA

- DWASA was staggering financially with inefficiency and high system loss.
- Ground water table of the city was going down by 1 meter yearly.
- As condition of financing, IDA demanded institutional reform, privatization study, experimental privatization of revenue billing, collection, etc., activities of 2 out of 7 DWASA geographical zones.
- 4th DWASA Project is based on surface water
- Construction of 225 mid treatment plant with basic facilities for capacity increase upto 900 mid.

3. Sensitive Aspects of DWASA 4th Project

- DWASA Employees Unions joined by officer/supervisor level associations started resistance movement against the two privatization components of the 4th Project.
- Finally the representative of IDA, GOB, DWASA management and the leaders of resistance movement sat together and agreed to render one Revenue Zone under private sector and another under the employees unions experimentally for one year.
- It was stipulated that the zone performing better would be accepted as model for future privatization.

4. Comparative Performance of the Experiment

- Table 1 and 2 in page 5 show Employees Co-operative (EC) clearly out performed both DWASA and the private operators (EPC Ltd.)
- Among reasons for failure of both DWASA and EPC Ltd. top heavy syndrome and neglect of grass root level seems to important.
- Besides the EC cashed upon their experience and threat of losing job and leaving DWASA without dignity.

5. Water Supply to the Poor and Slum Dwellers

=> DWASA Rules provide for water supply at nominal rate (Yen 50.00 per month only) to destitute and extremely poor families.

=> But to qualify for that, a person must own a piece of land with dwelling within DWASA operational area.

=> The slums were receiving water through unauthorized middlemen at very high cost (20 liter costing Tk 1.00 as against Tk 4.00 for 1000 liter paid by regular DWASA domestic/community consumer)

EC violated DWASA Rules and provided water supply at domestic rate (Tk 4.00 per thousand liter) to most of the slums in Zones 4 and 5.

6. Some Peripheral Benefit of the Experiment:

=> DWASA averted possible additional pay roll, pension contribution, leave salary and employee unrest of redundant Revenue staff of Zones 4 and 5, since over 100 of them have been taken on deputation by the E.C.

=> Performance with integrity (since double over DWASA pay) and job satisfaction (because of participation) became possible under the employees co-operative. Consumer satisfaction also went up.

7. Some Causes of Relative Success/ Failure of DWASA/ EPC/EC.

DWASA: Failing because of bureaucracy, poor pay, attendant corruption and inefficiency.

E.P.C.: Failed because of lack of past experience, top heavy syndrome and deemphasizing grass root level.

Employee Co-operative (E.C.) : Succeeded by cashing on experience, participative decision making, buying integrity with higher salary and taking the job as a challenge to overcome ignominy.

8. Concluding Remarks:

=> These are remarks and not finding.

=> Bangladesh experienced centuries of alien rule of distrust and hence people here developed negative attitude authority and management prerogative.

=> Bangladesh sustained continued entrepreneurs, skilled workers and capital.

=> The fact of average Bangladeshis being agriculturists, if combined with the aforesaid negative factors, do not promise a healthy development of private sector in the near future - at least for the utility services.

=> Private sector has already failed in privatized utility operations (EPC in DWASA, BETS in Khulna Electricity, DESCO in Dhaka-Mirpur Electricity Operations).

=> Hence some variant with worker participation bears grater promise of success in Bangladesh.

=> Employees co-operative model for water supply (hence other utilities) to slums may be formalized.

EXPERIMENTAL ALTERNATE OPTION TO PRIVATIZATION OF WATER INDUSTRY IN DHAKA - BANGLADESH

BY: M.Z.Hoque, Bangladesh

1.0 Background of Dhaka Water / Sewerage Authority:

1.1 In 1958 the USAID provided a grant of US\$ 0.2 million to study and prepare Master Plan for development of water supply sewerage of the provincial metropolis of Dhaka. Accordingly Ralph M. Parsons Company of the USA prepared a Master Plan. For implementation of the said Master Plan, Dhaka (Originally spelt as Dacca) Water Supply & Sewerage Authority (DWASA) was created on 7th November 1963 under an ordinance (Ord. XIX of 1963) as a statutory semiautonomous and monopoly public utility. Dhaka, the then provincial capital of East Pakistan, had a total population of nearly 0.6 million, inhabiting in an area of roughly 91 sq. km. Prior to DWASA, the Dacca Municipality and Directorate of Public Health Engineering (DPHE) jointly used to develop and operate water/sewer facilities. At inception, DWASA inherited existing water/sewer related assets and liabilities from those two organizations.

1.2 Piped water supply in Dhaka dates back to 1874 when the Dhaka Water Works, a surface water treatment plant, was commissioned to supply water through few hundred street taps. House service connections, meant only for the few rich and aristocrats of the then Dhaka city.

1.3 Modern sewerage system in Dhaka was constructed during the later part of the first quarter of the 20th century and was commissioned in 1921. A main sewer stretched from the north-west part of the then old city to the south-eastern side, where sewage was collected and pumped out through a central sewerage pumping station via a force main into an outfall area of some 52 acres of low and marshy land.

1.4 The 1963 ordinance mandated DWASA to maintain existing facilities and provide for further:

- (a) Water supply
- (b) Modern sewerage
- (c) Storm water drainage
- (d) Collection and disposal of garbage and trash.

1.5 The International Development Association (IDA), then provided US \$ 26.00 million on the condition that DWASA should run on sound commercial principle. The amount was later slashed down to \$ 13.2 million on the basis of revised (1966) project with reduced infra-structure deferring the construction of surface water treatment plant at Demra and reducing the size of the main sewer across the eastern alignment of the city from 108" to 54" diameter equivalent arch. As a result water supply development in Dhaka reverted back to ground water extracted through deep tube wells (DTW).

1.6 In the meantime, East Pakistan became Bangladesh in 1971 through a war of liberation and Dhaka turned into a national capital. Urbanization started growing fast in both vertical and horizontal directions at a pace that was totally unimagined. The Master Plan of the organization

became just irrelevant like those of other utility providers. Originally the town planning authority used to allow construction of only 2-storey residential buildings and the Master Plan was designed to cater for that sort of housing and commensurate population. Hence the facilities developed under the Master Plan became inadequate with multi-storied /sky-scraffer construction. Constraint of capital fund negated formulation of a fresh Master Plan till to day. Provision for potable water became the top most priority and most felt need. The IDA provided two more credits for extension of water supply by extracting ground water through deep tube wells. Thus Dhaka water supply continued to develop as a patch up and largely disintegrated system localized around each deep tube well in the continually expanding peripheral areas.

1.7 Following important developments took place for DWASA in the late eighties and early nineties:

- a. Transfer of Dhaka Drainage from **DPHE** (a Govt. department) to DWASA in March 1989 without any provision of rate for the service.
- b. Transfer of responsibility for water supply of adjoining port city Narayangonj having a population of 0.55 million spread over some 20 sq km to DWASA in July 1990. Its revenue falls far short of O & M cost till to day. There is no modern sewerage system in the port city.
- c. Renovation of existing sewerage system through a handsome (around Bangladesh Tk. 1700.00 million) Japanese grant.
- d. Renovation and up gradation of over 100-year old Dhaka water works from 8 mid. To 39 mid. capacity through another handsome Japanese grant of equivalent Tk.1470.00 million.
- e. Expansion and development of storm water Drainage system through a grant (95%) cum-loan (5%) of equivalent Bangladesh Tk. 2660.00 million provided by the Asian Development Bank (ADB).
- f. Further development of water supply system by utilizing surface water under DWASA 4th project co-financed by IDA, Governments of France and Japan. Government of Bangladesh (GOB) provided local currency component as equity.

2.0 The Fourth Project Of DWASA

2.1 The Fourth Project of DWASA was being mooted from early nineties. Saturation of ground water by deep tube well based projects nos. 1, 2 and 3 with IDA finance along with some Interim projects (4 nos. all based on DTWs financed by GOB) caused lowering of ground water table by around 1 meter annually. Downward trend in yield and increasing trend of DTWs getting disordered, persistence of high system loss (actually water not accounted for by billing over 55%), inefficiency and corruption, continuous piling up of receivables, continual increasing demand for water supply and sewerage services due to unanticipated growth of the city, deteriorating customer services, institutional weakness, lack of autonomy, insufficient revenue income, lack of transparency and accountability, a need for strategy study for privatization and experimentation on privatization options, were the main issues for discussion and negotiation between the stake holders including IDA.

2.2 Staff Appraisal Report (SAR) of the IDA on Fourth DWASA Project outlined its findings and recommendations on the issues mentioned in para 2.1 above. A cursory reading of the document indicate that the IDA laid most of its emphasis on :

(a) Institutional strengthening involving, among others, reframing and promulgating WASA Act as per SAR outline in Annex 2.1 (The Institutional Reform Programme, Financial Policy Statement), Annex 2.3 Performance Agreement. Thereafter framing and promulgation of Rules, Regulations and Manuals pinpointing accountability and transparency in shouldering responsibility and exercising authority.

(b) Main physical components of the project consists of a 900 mid water treatment plant (WTP) to be constructed in three phases, Intake structure (from River Lakhya to the WTP), system strengthening with primary, secondary and tertiary mains. Only first phase of 225 mid plant to be constructed (rest 625 mid. equiv. in two more stages) along with construction of basic and ancillary facilities for the whole 900 mid. WTP. Crash Metering of non-metered connections was another minor physical component.

(c) The project has a strong Technical assistance bias: Annex 3.3 strategy study for privatization; Annex 4.1. Improved Sanitation Study, Annex 5.1 Water Resources Management Study; Annex 7.1 Leak Detection and Waste Reduction Study; Annex 8.1 Operational Support (Twinning) Programme.

(d) Annex 2.4 outlined programme for experimentation of privatization of some DWASA services involving revenue billing, collection, metering, meter repair, system loss reduction and other associated activities like detection of unauthorized activities, computerization of billing/collection, receivable reduction, meter chamber construction, disconnection and franchising unauthorized water used by slum dwellers.

(e) Repair of 1963 ord. and promulgation of the 1996 WASA Act that, among other changes, gives more autonomy to the DWASA Board. Some of the important changes are noted below:

i) Replacement of 3 member (exclusive) Board by 13 member part time Board.

ii) M.D. to be a non-voting member, and CEO. of DWASA in place of chairman who was both CEO. AND Board Chairman under the 1963 ord.

iii) DWASA allowed to undertake projects without GOB approval, financed by own source.

iv) Board empowered to change organogram after 151 organization set up approved by the GOB under the new 1996 Act.

v) Board empowered to appoint auditors, increase rate annually upto 5% for inflation factor adjustment and 10% for adjustment of cost due to power factor i.e., DWASA's cost input due to increase in the rate of electricity input for running pumps, etc.

vi) Slab of imprisonment/penalties for violation of the Act increased with increased items in the schedule of offences.

vii) Provision for penalty/imprisonment for DWASA employees introduced for abetment.

3.0 Sensitive Aspects of 4rth DWASA Project:

3.1 Of all the components of the Fourth DWASA project, privatization strategy study and experimental privatization turned out to be the most sensitive aspects. During prior years of

existence of DWASA since 1963, it never came to the notice of any major stakeholders (GOB, IDA, DWASA Authority and its management, the consumers, contractors and consultants) that the employees of the Authority are by far the most significant of all to reckon. This is the main theme of this paper.

3.2 The employees, the trade unions (3 nos. in all), officers (managers) and supervisors level associations - all apprehended an impending danger of losing their jobs in due course, which was equivalent to a threat of loss of the safe heaven. They formed an United Front of Resistance (UFR) and started a movement against it. Almost all grass root level activities except operating the water/sewer pumps came to a position of stand still. But the GOB, DWASA Authority, management and the IDA, continued to turn a deaf ear to that and proceeded with the negotiation of the 4th credit in Washington. This virtually amounted to over flying a blazing volcano of the resistance movement. The top management was advised not to go for negotiation without a dialogue and reconciliation with resistance movement. But this was not taken into cognizance. By the time the negotiating team returned from Washington, the GOB and the DWASA management found themselves in a state of chaos and anarchy. The then government being faced with an impending general parliamentary election was not in a position to act with the option of dealing the situation with usual heavy hand. Moreover, by that time, the leaders of the resistance movement had enlisted support of other trade unions and associations of sister utility services for their cause.

3.3 Everybody concerned in GOB, IDA, DWASA Board and management, were frantically searching for an escape route from the on going chaos. Lastly this writer (a senior officer) was called for consultations. It was advised to hold a dialogue among GOB, IDA, DWASA management on the one hand and the leaders of the UFR on the other. I was assigned the job of go - between and devise a formula on the basis of which a dialogue could take place to sort out the problem.

3.4 I sat in a number of discussion sessions with the UFR leaders and convinced them that somebody has got to perform and deliver the goal goods in order to increase efficiency primarily to earn more revenues so that DWASA, as a vital utility, can survive and make progress. Finally IDA HQ team consisting of Janathan Kamkwala (Financial Specialist) and Ms. Helen Nankani (Labour Relations Specialist) came down to Dhaka. A meeting between GOB (Local Govt. Divn.), IDA, DWASA management and resistance leaders took place at the Resident Mission of the World Bank (WB) in Dhaka. After protracted discussion it was agreed that DWASA's Revenue Zone-4 (Mirpur) would be tendered to private enterprises and the lowest qualified bidder would be entrusted with the revenue job therein. Side by side, an authorized organization of the employees (the DWASA Employees' Co-operative) would then be allotted the job in Zone-5 (Tejgaon to Uttara) on same terms and conditions as outlined in the TOR for bidding on Zone-4. It was further stipulated that the contract would be initially for one year on experimental basis. Comparative performance of the two zones would be evaluated. The zone that would perform significantly better would be the model for future decision for privatization concerning revenue billing, collection and associated activities.

3.5 The UFR leaders pressed for a joint minute of the meeting; but the IDA and GOB representatives refused to involve them to that extent. Finally the DWASA management and the UFR leaders signed the joint minutes. Then the bidding process on Zone-4 took off the ground.

4.0 Comparative Scenario Of Privatisation Experiment Of DWASA

4.1 A TOR for contracting out of two Revenue Zones was drafted and approved as per guidelines provided by the IDA. Two firms Mis Bangladesh Engineering & Technological services Ltd. (BETS Ltd.) and Engineering Planning Services Ltd. (EPC Ltd.) were pre-qualified for bidding. MIS EPC Ltd. became lower of the two bidders by a small margin for the works of DWASA Zone 4. Contract was signed with the firm on 25.11.96. Another contract was also signed on the same date with the DWASA Employees Co-operatives for Revenue Zone -5 works on same terms and conditions. But works could not start due to lingering opposition by 20ne-4 revenue and other associated staff for their posting elsewhere in DWASA before EPC Ltd. could start work. Finally things were sorted out on 01.09.1997. MIS. EPC Ltd. started works from 01.10.1997 by arranging their own computer establishment after one year of signing the contract.

4.2 Comparative achievements of DWASA, EPC Ltd. and Employees Co-operative are briefly recorded on major indicator i.e. final output of billing and collection and system loss reduction. It may be noted that system loss under DWASA has got two components viz. 21 % of technical loss (leakage etc.) and administrative (pilferages, negotiated billing, etc.) system loss. Hence it is more meaningful to term system loss as "water not accounted for by billing."

Table -1: Programme for Performance Improvement (PPI) . Revenue 20ne-4. DWASA.. Bangladesh Taka in Millions

Item Description	DWASA Sept. 96 to Aug. 97	EPG Ltd. Private Operator (Sept. 97 to Oct. 98)	Employees' Co-operative (EG)			
			Nov. 98 to June 99	FY 1999- 2000	FY 2000- 01	FY 2001- 02
BillinQ (Tk.)	68.159	87.342	108.639	171.343	174.835	177.608
Collection (Tk.)	55.887	49.415	56.050	90.522	122.707	145.356
No. of AICs	31,023	34,448	35142	37460	41207	41776
Water Production (MLD)	47,413.50	47,245.60	38241.49	65715.38	73906.14	71907.55
System Loss (%)	62%	46%	36.88%	43.23%	51.70%	48.83%

* Further reduction of system loss being impeded by non-availability of required water meter

Table- 2: P P 11 Revenue Zone-5.

Item Description	DWASA Sept. 96 to Aug. 97	Employees Co-operative (EC)				
		Sept. 97 to June 98	FY 98-99	FY 1999- 2000	FY 2000- 2001	FY 2001- 02
BillinQ (Tk.)	107.319	217.727	240.697	253.146	262.146	313.830
Collection (Tk.)	113.891	133.130	196.391	224.805	245.907	286.854
No of AICs	23251	23706	25165	27793	29684	31900
Water Production (MLD)	53220.28	47965.03	59622.32	66824.77	63012.74	70874.67
Average System Loss (%)	68.32%	31.88%	36.35%	36.77%	32.75%	27.86%

* Further reduction of system loss being impeded by non-availability of required water meter

4.3 The figures in the foregoing tables do not tell all the background stories. M/S EPC Ltd. kept on complaining to the IDA about imaginary non co-operation by the DWASA management. The IDA fielded several teams including one consultant to verify the complaints. But nothing was substantiated. On the other hand EPC Ltd. violated the contract (TOR) on many counts. They did not maintain the manual consumer ledgers and consumer files containing consumers' letters, queries etc. and the relevant rulings and decisions. They also did not maintain Registers for detection of unauthorized activities, meter chamber construction, and meters withdrawn/replaced /infringed/repared. Moreover, they did not maintain the computer ledger by using the software designated by DWASA to facilitate transfer of data to DWASA mainframe computer. Even then DWASA did not take any action against them to avoid any hitch with the IDA, who has been active to find some grain of truth in the complaints of EPC Ltd.

4.4 To get rid of such a sorry state of affairs, DWASA management did not renew the contract with EPC Ltd. and instead called the Employees Co-operative to sign another contract on Revenue Zone -4 in addition to that of Zone-5. The Employees Co-operative then started cleaning the garbage left by EPC Ltd. in Zone -4. The results are distinctly visible in table -1 from the figures of FY-99 onward.

4.5 A statement showing revenue billing and collection for the financial years from 1994-95 to 2001-02 under all individual Revenue Zones of DWASA is appended at Annex-A1 for those who are interested to have an idea as to what has been happening in zones still remaining under direct DWASA management. Another statement enclosed at Annex-A2 shows the present state of DWASA's infrastructure which may give an idea of the magnitude of operation of the organization.

5.0 Water Supply to Poor and Slum Dwellers:

5.1 DWASA provides for water to poor and floating people through about 1000 street taps in Dhaka and 600 hand pumps in Narayanganj. However cost of water supply through street taps at community rate is reimbursed by GOB to DWASA. But the cost of hand pumps in Narayanganj is not reimbursed.

5.2 DWASA's rate schedule provide for water supply to destitute and extremely poor families at a lump sum cost of Tk 25.00 (equivalent to Yen 50.00) per month. But such families must have water connection in own house built on own land. Therefore, it does not mitigate water supply need of huge segment of Dhaka city population living in slums and shanties built on GOB land.

5.3 'Water Supply for slum dwellers is a unique contribution of the privatization experiment handed down by the Employees' Co-operatives. All the slums under Zone-5 and most ones under Zone-4 were provided with regular water supply. As per DWASA Connection and Levy Rules, water/sewer service connection can be given only on request by holding (land) owner. These slums are situated on the lands owned mostly by GOB departments and agencies. They consider these dwellers as unauthorized occupants. Hence no request for water supply of any other utility service for these unfortunate communities.

5.4 But that does not mean that these slum dwellers survived without water or without electricity etc. Actually they used almost all the utilities including water through musclemen, who have been the providers of these services illegally. Such provisions of utility services involved huge cost to the end users Le. the poor slum dwellers. For example, one pitcher or bucket of 15 to 20 liters of water used to cost Tk. 1.00 to the user while the rate for such domestic counterpart user for 1000 liters used to be less than Tk. 4.00 only.

5.5. The management of the Employees Co-operative along with DWASA Project Director of the privatization experiment sat together and decided to give water connection to slum dwellers through some non government organizations (NGO) at metered domestic water rate charges so that the poor slum dwellers are freed from payment of exorbitant rates charged by unauthorized muscle/middlemen. All the slums under zone 5 was covered by this program. In zone 4 on the other hand, resistance came from the strong musclemen having backing of some political parties. Yet the program has covered most of the slums so far. Attempt is on to cover the rest under this program. It is estimated that some 30000 slum dwellers under zones - 4 and 5 are now getting the benefit of quasi-legal low cost water supply through this humanitarian program. This has also been bringing a good amount of rate in come to DWASA coffer which otherwise would have gone to the pockets of musclemen.

5.6 Involvement of an N.G.O. (Dusta Shastha Kendra or DSK) for water supply to the poor slum dwellers was invoked for two reasons, viz,

(i) To bamboozle DWASA attention and violate its Connection and Levy Rules by taking a security deposit of Tk 10,000.00 provided by the NGO on behalf of each water connection in slums.

(ii) To discipline the slum dwellers and to motivate them not to misuse or waste water. DWASA did not dare to take action against this violation for humanitarian cause. Moreover, the Employees Co-operative is required to reduce system loss or water not accounted for by billing. They could only partially do it without plugging unauthorized water uses to the slums

6.0 SOME OTHER PERIPHERAL BENEFIT OF THE EXPERIMENT

6.1 DWASA pay scales are fixed by the GOB as part of national pay scales. The GOB pay scales are poorer than those of standard private sector scales and those provided by the multinationals, embassies and International agencies. The take away home wages and fringe benefit package for class III and class IV employees fall far short of the required amount for a modest living standard. Hence the employees of these categories, of necessity, have to become dishonest and cannot activity commit to achieving the organizational goals. But the take away home salary given by the Employees' Co-operative is a decent one and defrays for modest standard of living. Hence they now can afford to be more honest and more activity committed to achieving the organizational goals.

6.2 Job satisfaction under the Employees co operative is the maximum possible under the circumstances. Because the employees here do not comply with what they are told to do. Rather they are doing what they have decided upon to do.

6.3 No formal survey has yet been made on the consumers of zones 4 and 5 to ascertain the extent of consumer satisfaction. But informal consultation has shown that the quantity of consumer service under zones 4 & 5 has increased considerably and there is a general appreciation of the mode of privatization.

6.4 DWASA has immensely benefited by the privatization through the Employees' Cooperative. First it has reduced sky high (over 60%) system loss or water not accounted for by billing. Along the way this has been the conduit for additional revenues compared to the performance in this regard under either DWASA or under the private operator M/S. EPC Ltd.

6.5 The most strategic benefit for DWASA is the relief from the jolts or possible upheavals of redundancy associated with a normal privatization. The Employee's Co-operative has taken 2 officers (managers), 6 Supervisors and 110 Class III class IV employees of DWASA on deputation who otherwise could have been redundant with vagaries attendant to redundancy. This has, in addition, relieved DWASA of load of pay roll, pension contribution etc. of these officers, supervisors and workers. Hence privatization through Employees Co-operative offers the promise of exit of existing manpower of DWASA peacefully, with least possible financial load to DWASA along with avoidance of possible administrative upheavals associated with a normal privatization program.

7.0 SOME CAUSES OF RELATIVE SUCCESS/FAILURE OF DWASA/ EPC/ EC.

7.1 DWASA Part: DWASA is a public utility and state owned enterprise (SOE). Therefore, it has got all the attendant disadvantages of bureaucratic administration as against principles and practices of modern management, poor set pay/fringe benefit package, absence of incentive for better performance, career prospect only through promotion by seniority, indolent! incompetent management etc are plaguing DWASA. Additionally deputation of GOB officers into strategic decision-maker posts has plagued further. This alone undermined the vital fact that DWASA is a specialist field of management performance, which required sustained experience in the field of commercial water/sewer utility. These deputed officers knew the budget for spending and not the balance sheet with obligation to provide efficient service and earn thereby.

7.2 EPC Ltd. Part: This firm is a reputed engineering consulting firm and had little or no experience of commercial utility operation. The organization set up at Annex B3 and the comparative compensation package at annex-c show that EPC suffered from a top heavy syndrome, while contract performance required care and attention at the grass root level of the workers. Instead of mending themselves pragmatically, they kept on lodging false complaints to the IDA against the Project Director and imaginary non-co-operation of the DWASA management. They did not maintain the manual consumer files or the manual consumer ledgers, which bear enormous legal importance in the Bangladeshi legal setting of DWASA vis-a-vis the consumers. They also did not keep complete inventory of meters withdrawn, replaced, meters infringement, non-metered connections converted into meters, meter chambers constructed, unauthorized activities detected etc. etc. They actually left the zone - 4 revenues into a shamble.

7.3 Consumer co operative Part: They had the advantage of prior experience in revenue matters. They encashed this prior experience on field conditions and counterpart consumers' records by taking the relevant personnel on deputation. They paid these deputed personnel almost double the amount paid by DWASA. Hence they bought their honesty and integrity considerably.

They planned their work better and marshaled performance by emphasizing at the strategic grass root level. More over they had the psychological urge to work hard and work honestly to stay in service and retire with dignity in the face of threat of losing job. Hence they took their own decision and performed diligently with a sense of self-respect.

8.0 CONCLUDING REMARKS:

I call these 'remarks' since these are not the "findings" based on thoroughly conducted formal study.

8.1 The area now comprising Bangladesh has experienced centuries of alien rule till liberation in 1971. Alien or colonial rule based on master and servant or feudal and serf relationship based on an administrative system of distrust and subjugation, commanding allegiance through application of force, has implanted an abhorrence in the minds of average Bangladeshis against authority. Moreover, unlike Japan authority in Bangladesh has got no spiritual footing. No Sun Goddess or any other equivalent entity descended in Bangladesh as source of authority. Hence the authority of managers or the so-called management prerogative does not command active allegiance of Bangladeshi workers. This may be an important cultural reason for failure of private sector in Bangladesh calling need for some thing with workers' participation.

8.2 Bangladesh sustained two distinct negative migrations, one at the time of independence under Pakistani frame in 1947 and the other during and after liberation in 1971. During and after 1947 the elite educated Hindus left for India. They also took with them the stock of the then money capital. This vacuum was considerably filled by influx of members of Aghakhani and Memon communities from India in the entrepreneurial sector. The process was further enriched by the influx of Behari Moslems, from the state of Bihar of India, who filled the cadre of skilled workers. The joint effort of these communities brought East Pakistan almost on the verge of take-off into industrialization. But unfortunately these three communities did not socially mingle with local Bengali community, who were predominantly agriculturist. Moreover, these three communities collaborated with Pakistan army during the war of liberation. Thus they became the traitors at inception of Bangladesh in 1971. Hence Bangladesh was drained out of so-called 'marginal communities' regarded by sociologists as strategic to industrialization and private sector development. This gives further impetus to the idea that privatization in its age old form may not succeed in Bangladesh in the near future.

8.3 Public sector utilities have been state owned monopolies. Hence no private sector organization had chance to gain experience in this sector. This may be one of the reasons as to why attempt of Khulna electricity privatization failed and DESCO in Dhaka could not yet make any headway. All seem to be meeting the destiny of MIS EPC Ltd.

8.4 Bangladesh has developed a negative law and order situation. Mafia groups are taking a heavy toll from the private enterprises. Anything with worker co-operative or worker participation may provide built-in army of defenders against extortion of such Mafia groups.

8.5 The experiment on DWASA co-operative model needs patronization as well as formal and deeper study by experts to find out something that effectively compromises between public sector inefficiency and immature private profit motive. A new system needs to be evolved by blending the trade unions with some sort of workers' co-operative. Providers of needed capital have also to be

blended somehow. The German system of worker participation perhaps, need to be studied side by side to find out whether some ingredients can be borrowed to give the needed legal and institutional foundation to the likely system.

8.6 The mode of water supply to the poor slum dwellers introduced by Employees Cooperative need to be formally introduced by amending the DWASA Connection and Levy Rules. Similar arrangement need also be made for sewerage services of the slums. This will go a step towards poverty alleviation, improvement of environment, system loss reduction and more revenue in the coffer of the utility provider.

Annex-Ai

DHAKA WASA

Billing and Collection from FY -95 to FY -02 (all DWASA Revenue zones)

Zone	1994-1995		1995-1996		1996-1997		1997-1998		1998-1999		1999-2000		2000
	Billing	Collection	Billing	Collection	Billing	Collection	Billing	Collection	Billing	Collection	Billing	Collection	Billing
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	112.87	85.70	106.24	88.01	113.90	111.32	125.13	104.31	130.54	106.59	153.32	114.51	170.50
2	83.71	55.71	89.35	52.74	95.33	66.23	100.71	64.49	96.78	60.22	105.97	63.50	112.53
3	113.78	101.19	117.48	103.83	129.02	129.49	141.86	134.20	148.51	141.73	171.62	158.50	191.82
4	62.51	42.13	65.18	41.81	69.80	54.37	80.69	46.98	133.16	83.11	171.34	90.52	174.84
5	113.20	69.81	103.86	80.64	111.27	105.80	230.13	151.73	240.70	196.39	253.15	224.81	262.15
6	111.69	91.04	120.08	92.76	128.60	117.54	148.40	119.35	156.73	132.09	180.98	151.32	185.98
Govt.	202.72	270.97	198.27	179.06	203.07	192.52	199.25	141.01	221.57	141.38	249.54	154.93	248.45
N.Goni	12.96	4.95	12.55	4.92	13.35	7.42	14.53	5.31	15.23	4.71	17.98	5.22	22.39
G. Total	813.43	721.49	813.00	643.77	864.34	784.69	1040.71	767.39	1143.20	866.22	1303.90	963.30	1368.66

Annex - A2

Present Infrastructure of DWASA at a Glance

Items	Unit	Position
Water System		
Number of DTW in Operation	Nos.	394
Water Treatment Plant	Nos.	3
Daily Water Production	MID	1500
Water Line	Km	2127.48
Water Connection	Nos.	191087
Over Head Tank in Operation	Nos.	38
Public Standpipes	Nos.	920
Religious Institutions	Nos.	970
Sewerage System		
Sewer Line	Km	631
Sewer Connection	Nos.	47338
Sewage Lift Station	Nos.	26
Sewage Treatment Plant	Nos.	1
Storm Water Drainage System		
Storm Water		
Total Pumping Station	Nos.	3
Total Pump	Nos.	10
Total Capacity	Cu. M/Sec	41.60
Box Culvert	Km	6.50
Open Channel	Km	56
Pipe Drain B /Sewer	Km	187
Underground Drainage Line	Km	
Development Project		
Investment Project	Nos.	7
Technical Assistance Project	Nos.	1
Personnel		
Class-I Officer	Nos.	165
Class-II Officer	Nos.	198
Staff	Nos.	3463
Total	Nos.	3826
Billing, Collection & Receivables		
Billing	lakh Taka	15804.78
Collection	lakh Taka	12888.18
Receivable	lakh Taka	14386.77
Receivable equivalent to months of billing	lakh Taka	10.93

Annex - C

Comparative Monthly Salary DWASAJEPC Ltd./Emplovess cO-OP.

Organisation	Position Name				
	Project Manager	Accountant	Filed Officers	Meter reading	Plumber etc
DWASA	Tk.13,636.00	-	Tk.9000.00	Tk.7000.00 (500 AIC each monthly)	Tk.5000.00
EPC Ltd.	Tk.35,000.00	50,000.00 (Chartered AIC)	Tk.20,000.00	Tk.3500.00 (500 AIC each by monthly)	Tk.2500.00
Exploeyess co-op.	Tk.20,880.00		Tk.16,240.00	Tk.13,350.00 (774 AIC each monthly)	Tk.7000.00

Comparative Fringe benefit

DWASA	EPC Ltd.	Employers' Co-Gpo
1. Pension 2. 53 days paid leave P A 3. Conveyance allowance 4. Liveries for class III and IV employees	Tk. 100.00 deducted for each day absented by Meter readers/plumbers	1. Pension contribution 2. 53 days paid leave PA 3. Conveyance allowance.

References:

1. The writer had been a senior officer of DW ASA as well as the Project Director of the Privatisation Experiment. Hence this paper heavily draws on his personal experience.
2. Annual and Monthly Management Information System Reports of DW ASA from 1995 onward.
3. National Institution Review - A Mini Case Study of DW ASA. By Asrarul Islam Chaudhury, Lecturer, Jahangir Nagar University and Ph.D. student in the University of Cambridge, UK.
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5. Problems and Prospects of DW ASA Revenues. By M. Z. Hoque, Dy M.D. and Engr Md. Bazlur Rahman, Executive Engineer. A paper presented in a DW ASA seminar in December 1998.
6. 39 - Years of DW ASA and its Privatisation Question. By M. Z. Hoque (An article published in the Souvenir on the occasion of DW ASA Diploma Engineers Convention -2002)