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***NON-REPAYMENT OF BANK LOANS AND RENTAL CHARGES
FOR IRRIGATION EQUIPMENT IN BANGLADESH:
A CASE OF BUREAUCRATIC AND POLITICAL
INEFFICIENCY TRAP?***

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ABSTRACT

Non-repayment of bank loans and rental charges for irrigation equipment is widespread in Bangladesh. Owners/managers of equipment, who are largely rich farmers, do not repay loans or rentals in spite of their large profits accumulated from increased production and water sales. This paper illustrates with field level evidence that the underlying causes of non-repayment are bureaucratic and political inefficiencies associated with allocation and installation of equipment, distribution of loan and provision of support services.

I. INTRODUCTION

In recent years, non-repayment of bank loans and rental charges for irrigation equipment has been widely reported in Bangladesh. Several studies conducted in different locations of the country report that the rates of defaults have been alarmingly high (Table 1). A recent survey shows that in Ghatail and Kalihati upazelas of Tangail district only 7 out of 143 deep tubewell managers fully paid rentals up to the current year and that the cumulative outstanding rental charges for these tubewells stood at about Taka 1.5 million (Mandal 1995, p. 80). Hamid *et al.* (1982) report for the north-western districts of Bangladesh that the repayment of bank loans advanced for the purchase of shallow tubewell under the IDA-credit programme was also dismally poor. They also report that the situa-

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TABLE 1. EXTENT OF NON-REPAYMENT OF LOAN INSTALMENT AND RENTAL CHARGES FOR IRRIGATION EQUIPMENT

Area and period of reference	Type of technology	No. of units referred	Overdue loan instalment/rental charges (%)
Outstanding loan :			
1. Fulbaria (1979/80- 1981/82)	DTW	121	100
2. Phulpur (1980/81-1981/82)	STW	144	88
3. Eight upazelas (Upto June 1983)	DTW, STW LLP	157	45
Outstanding rental charges :			
4. Fulbaria (1980/81)	DTW	73	42
(1981/82)	DTW	73	63
(1982/83)	DTW	71	97
5. Eight upazelas (Upto June 1983)	DTW, LLP	63	46
6. Ghatail-Kalihati (Upto 1984/85)	DTW	143	95

Sources : For 1, 2 and 4, Mandal (1983) ; for 3 and 5, Quasem *et al.* (1984) ; for 6, Mandal (1985).

tion further worsened as the programme failed to push cash sales even to the minimum target level.

The case of non-repayment of bank loans and rental charges for irrigation equipment is not different from the overall position of agricultural loan in the country. But the r.c.z-

repayment in tubewell loans and rental charges warrants special concern because these defaults occur inspite of substantial profits accumulated by the equipment owner/manager from increased production on their land and selling water at very high prices (Quasem *et al.* 1984 ; Mandal 1985). Still more, huge defaults have socioeconomic implications as follows : Firstly, government investment cost for irrigation equipment cannot be realized and the avowed goal of resource mobilization is not achieved as expected from privatization of irrigation equipment and from rapid increase in the equipment rental charges. Secondly, inspite of huge defaults in repayment indiscriminate sale of 'equipment by many agencies against bank loans has given rise to corruption and bribe-seeking', which allows private benefits at high social cost. Thirdly, non-repayment of bank loans and rentals means allowing indirect subsidies to those who have easy access to political power and government institutions ; this leads to misallocation of scarce equipment because their true opportunity costs are not reflected in actual market prices. Fourthly, non-repayment reputation which has built up gradually is bound to have negative implication for the future availability of external aid and expansion of irrigation.

The causes of non-repayment are many, including social, economic, political, administrative and institutional factors. These have again higher level causes encompassing history, culture and attitude of the society which is characterized as having low level of 'social discipline'. To concentrate on direct economic factors, one may wonder whether the equipment owners/managers have financial ability to repay loans or rental charges. It has been referred earlier that the profits from irrigation equipment have been very high. Especially, in areas where water charges are collected in the form of cropshare (e.g. 25-33 percent of harvested crop), returns over operation and maintenance cost are high enough to pay back full capital cost of deep tubewells in 2-3 years. Under the system where water charges are paid in cash per unit of land, returns to owners/managers of equipment are comparatively low but enough to pay for bank instalment and rental charges (Mandal 1985). Although the incidence of mechanical breakdowns is increasing as the tubewells are ageing, returns over operation and maintenance costs are still high enough to repay loan and rental charges.

One may also wonder whether the borrowers in a traditional society like Bangladesh have acquired good repayment behaviour. A large number of empirical studies have shown high repayment record, especially by small farmers. Also, there is very high repayment of non-institutional credit, implying good repayment behaviour of borrowers in the traditional credit market. However, empirical studies also suggest that large farmers, who get most of agricultural loans, default repayment more than small farmers.

The above discussion raises an important question as to why the equipment owners/managers, most of whom are large farmers, do not repay loan instalment and rental charges inspite of their ability to pay. One consideration, which is likely to be an important part of the explanation for the alleged non-repayment, is the failure or inefficiency of bureau-

cracy and politics. But this point is seldom discussed in development literature. For example, Wade (1982) argues with reference to a south Indian state that the corruption system encompassing irrigation engineers and politicians is centred on control of personnel transfers; and corruption is an important 'supply-side reason' for poor performance of canal irrigated agriculture. But Wade does not say whether the observed 'poor canal performance' affect payment of government water fees by the irrigators who in any case have to pay 'vast' illicit money to irrigation officials. In a recent paper in relation to the implementation of development programmes in Bangladesh, Hamid (1986) relates poor performance of irrigation programmes with administrative corruption and bribes, describing the process of corruption as a 'giver-taker equilibrium trap'. But Hamid also does not expand to describe whether the poor performance of irrigation programmes resulting from the 'trap' affects realization of further development goals. It is possible that the owners/managers of irrigation equipment falling into the 'trap' may tend to utilize the same 'trap' as an inpalpable ground for not responding to government attempts to realize revenue from irrigation. One such possibility is equipment owner's lack of response or willingness towards repayment of bank loans or rental charges. This is precisely the point addressed in this paper. It is hypothesized here that corruption and inefficiency of bureaucracy and political interference, related to allocation, installation and utilization of irrigation equipment, are important reasons affecting performance of irrigation. It is further hypothesized that corruption, inefficiency and poor performance taken together seriously affect repayment behaviour of equipment owners/managers, which ultimately results in huge defaults in repayment of loans and rental charges. This paper sets out to illustrate major areas of bureaucratic and political inefficiencies associated with the allocation, installation and utilization of irrigation equipment, and give evidence to the above hypotheses.

The arguments of this paper are based on evidence obtained through formal and informal interviews with a large number of owners/managers of irrigation equipment in different areas of Tangail district. These interviews were taken during the course of a broad survey on irrigation conducted in 1985 irrigation season by a multidisciplinary research team including the author at the Bangladesh Agricultural University, Mymensingh. During 1986 irrigation season, and author's personal interviews with 50 tubewell owners/managers included in a follow-up survey, and in-depth case studies of selected tubewell schemes in Ghatail and Kalihati upazelas provided more information. It should be borne in mind that information regarding official irregularities or illicit payments are extremely sensitive and also very common subject of gossips in Bangladesh. Farmers are often harassed and they pay bribes to get irrigation equipment and therefore they are disgruntled. Since disgruntled people, in Wade's terms, 'tend to exaggerate the reasons for their discontent', there may be some exaggeration in the facts and figures quoted by equipment owners/managers. But, given the supply of and demand for irrigation equipment, bargaining situations in which illegal transactions between 'giver and taker' take place are not hard to understand. Surprisingly, some figures such as payments for elec-

tricity connections showed extreme regularity in statements across villages, while figures related to illicit payments for equipment sanction varied depending on type of equipment, strength of bribe-giver and genuineness of application papers submitted for physical verification by officials. In an attempt to verify statements of equipment owners/managers some officials were also approached, but they did not accept the allegations. The usual response from officials was 'farmers want everything free'. While more appropriate methods for such study necessitates in-depth anthropological approach involving residence in the study areas, methods employed to gather evidence presented in this paper leads one to, as Wade puts it, 'look for the common elements in what people say' (1982, p. 292).

II. AREAS OF INEFFICIENCY

Allocation and Installation of Irrigation Equipment

Ideally, the allocation of all irrigation equipment is to be decided by the upozela Irrigation Team (UIT), a committee headed by the upozela chairman who is now elected through universal adult franchise. Until recently upozela Nirbahi Officer, executive head of the upozela, used to act as the chairman of the UIT. Senior Irrigation Officer (SIO), previously called Section Officer, of Bangladesh Agricultural Development Corporation (BADC) acts as the member-secretary of UIT and assumes the entire responsibility of preparing the technical feasibility report on the proposed schemes. Other members of the UIT are the Project Officer of Bangladesh Rural Development Board (BRDB), elected chairman of the Upazela Central Cooperative Association (UCCA), Upazela Agricultural Officer, Upazela Cooperative Officer, and Manager of the bank that finances the purchase of irrigation equipment.

The process of allocating irrigation equipment is as follows : farmers' groups submit applications, together with proposed scheme map, farmer list and register of irrigable land, to the Irrigation Officer of BADC through the financing bank. BADC Irrigation Officer and another member of the UIT, who represent financing institution, are to prepare the technical feasibility report after physical verification. The report then goes to the UIT for approval. BADC then issues orders for installation of tubewells by its appointed contractor. On completion of installation as certified by tubewell owners, contractors are paid commission by BADC.

Throughout the process of tubewell allocation and installation as depicted in Fig. 1, the dotted lines indicate areas where most inefficiencies and corruption occur. We will illustrate them in turn in the following sections :

Lengthy process of approval

The process of approval, installation and operation of tubewells is unusually lengthy and cumbersome. Quasem *et al.* (1984) report on the basis of their survey that it

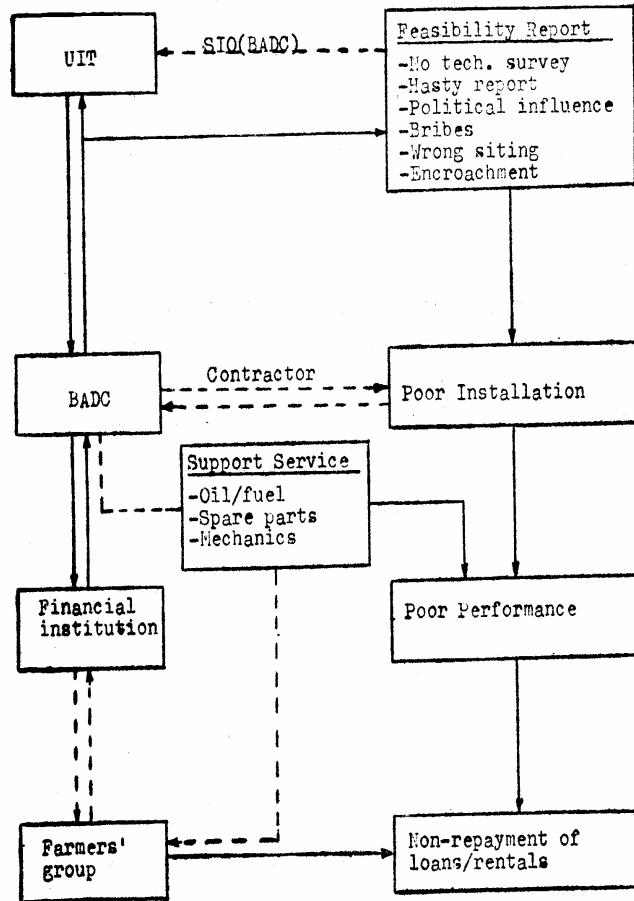


Fig. 1 Areas of inefficiencies in the allocation, installation and maintenance of irrigation equipment.

took as long as two years from application for tubewell to actual operation, although, according to them, the period has been reduced following the privatization programme. The period is too long to keep track with the original project plan showing tubewell site and command area boundary.

Usually what happens is that by the time the concerned tubewell (T) gets approved and installed, few more tubewells, especially shallow tubewells, will have been installed within the potential command area of the concerned tubewell (T). For example, in the case of one deep tubewell owned by a Farmers Cooperative Society (KSS), which was under our in-depth case study in Ghatail, Tangail, it took more than a year to get the tubewell approved by BADC and loan sanctioned by BRDB. By the time the deep tubewell was installed in 1982, two shallow tubewells (one purchased with cash and the other purchased with loan from Bangladesh Krishi Bank) had been installed within the approved command area of the KSS-deep tubewell. It was reported that the delay was deliberately caused by the concerned BADC officials in an attempt to receive from the KSS group bribes of Taka 5000 for the delivery of the engine and Taka 200 for the delivery of the handle. Besides, since the approved command area boundary had been violated once, it allured a member of the same KSS to install a shallow tubewell recently within the deep tubewell command area. It is no wonder that the KSS members attributed the reduction in their command area, and hence poor performance, to the encroachment caused by the shallow tubewells, for which they accused the official delay to approve, install and deliver engines and handles. We observed very closely that such accusation reflected strongly in their attitudes towards repayment of loan instalment but they had other causes too about the distribution of KSS loan by BRDB and electricity supply, which will be discussed later.

Improper feasibility report

It is widely alleged that feasibility reports as prepared by the BADC irrigation officials are grossly improper and inadequate. There are three main sources of inaccuracies. Firstly, feasibility reports are prepared without having any reliable information on the physical characteristics of command areas, relating to soil contours, topography, soil type, ground water level, water quality, etc. Secondly, these reports are based on hasty field visits or no visit at all. This happens either because the irrigation officials are overburdened with work, a point which Hamid *et al* (1982) observed in shallow tubewell study, or they are politically pressured to produce reports in a haste; the latter point will be illustrated later. Thirdly, wherever possible, the usual tendency of the irrigation officials is to hold up the feasibility reports for bribes and when these are paid reports are prepared as desired. Two major points are usually shown as excuses to delay feasibility reports: One, command area is not adequate or the area is not properly shown in the mouza map (minimum command area specified by BADC is 60 acres for DTW and 10 acres for STW). Two, the distance of the proposed tubewell from the surrounding

tubewells is less than required. The spacing requirements according to BADC are : 2500 feet between DTWs ; 1700 feet between STWs and DTWs ; and 800 feet between STWs.

To illustrate the above points two examples from our study sites will be used. Firstly, the owner of a private deep tubewell under our case study in Ghatail submitted his proposed scheme for approval, but the BADC officials deferred processing it asking him to resubmit the scheme showing larger command area. The owner admitted that he just added few more names to the farmer list and redrew the scheme boundary on the mouza map before resubmission, but made an illicit payment of Taka 500 to the concerned officials. Our own mapping of the command area in 1986 irrigation season revealed that it was totally different from the scheme map on which feasibility report was prepared. Secondly, it was reported in the case of a KSS-DTW in Ghatail that the tubewell was actually sanctioned for a mouza to which the KSS tubewell owners did not belong, in order to satisfy the required spacing from the nearest deep tubewell. But the few KSS tubewell owners succeeded in getting the tubewell installed at a chosen site in their own mouza by making illicit payment of Taka 6000 as well as entertaining the officials of the concerned government agencies. This illicit payment compares with Krueger's findings on India and Turkey that when quantitative restrictions are imposed government officials allocate licences or permissions to seek 'rents' and competition takes place for a share of rent (1974, pp. 291-93). However, as the tubewell referred to above was installed at a new site, the spacing regulation was violated. This affected a shallow tubewell command area belonging to the rival faction of the village. In retaliation they withdrew their plots which were critically required to dig an important main canal for the expansion of the deep tubewell command area. Further, this led to a legal suit for which the deep tubewell owners had to incur extra costs. Asked about loan repayment, the tubewell owners attributed their huge defaults to the reduction of their command area because of the closure of the main canal and to the failure of the officials to tackle the problem.

Similar reports of 'bribe-seeking' in the allocation of tubewells are also available from north-west Bangladesh. On the basis of their close observation from Rangpur villages Hartmann and Boyce report that "corrupt government officials took their share in the form of sundry bribes and kickbacks : the SIDA evaluation notes delicately that the project (World Bank tubewell project) provided 'a source of additional income' to certain officials who 'could protract or expedite matters in the decision-making process' (1983, p. 258).

Contractor's job

Deep tubewells are installed exclusively by the BADC appointed contractors, but shallow tubewells are installed either by contractors or by locally available private mechanics. There are allegations that many installed deep tubewells are technically defec-

tive as the required precision in vertical set-up are not maintained nor are the wells properly developed before commissioning. These major technical faults result in poor well discharges. Contractors themselves complain of BADC's inefficient delivery of tubewell materials and of lengthy process of KSS group formation by BRDB, all of which result in delay and inefficiency of tubewell installation (Quasem *et al.* 1984).

In addition to fixed commission from BADC, contractors also earn extra money in different ways. Firstly, in situations where tubewell buyers cannot deposit the required downpayment immediately, contractors themselves are said to take active interests to arrange downpayments and expedite delivery of tubewells through negotiations with BADC officials. We do not have evidence on the terms of such negotiation, but contractors in general have, as Banfield (1975) puts it referring to 'third parties', strong incentive to pay extortion or 'monopoly price' to influence the official's 'exercise of discretion'. In such case, contractors offset more than their extra cost of negotiations with the officials by putting in poor quality drilling and materials for tubewell installation. Secondly, in certain situations contractors save on huge labour cost by using voluntary labour provided by the tubewell buyers. For example, the owner of a deep tubewell at Beldoho, Ghatal, which was under case study, reported to have provided the contractor with free labour for tubewell installation and pumpshed construction, and also free food to fifteen workers of the contractor for two days. It was not surprising that the tubewell owners in our study sites commonly attributed their defaults in loan repayments to poor quality installation, poor performance of tubewells and extra personal costs paid to contractors and officials.

Conversion from rental to sales programme

BADC's conversion programme refers to the sale of public tubewells which were previously rented out to farmers. The prices of these tube-wells are fixed on the basis of straight line depreciation of Taka 3000 per year. According to the recent regulation, deep tubewells, old or new, have to be sold to genuine farmers' cooperative societies (KSS) ; and the entire responsibility of organizing cooperative societies has been given to BRDB. In this case, BADC has been given the task of verifying technical feasibility and commercial banks are to provide credit.

In the process of conversion, officials can exercise their discretionary power in different ways depending on the type and condition of equipment to be sold. For example, in the case of low-lift pumps (LLPs), the officials can fix the sale price at much lower rate than actual, showing a well performing equipment to have performed poorly. Such discretion of officials is given within the government policy of selling rented LLPs. This gives rise to a bargaining situation in which the officials can earn illicit incomes from the buyers. The buyers are still interested to purchase these equipment for three main advantages : firstly, low-lift pumps are comparatively cheaper than shallow and deep tubewells ;

secondly, low-lift pumps are used to lift surface water and also can be converted into shallow tubewells to abstract ground water; thirdly, LLP engines can be used for other purposes such as rice hauling and boat plying. These favourable factors together with the discretionary power given to the BADC officials to fix prices accelerated the process of LLP sales.

In the case of deep tubewells, BADC officials do not have the discretion to vary prices as in the case of LLPs because the price and depreciation rates for old (rented) tubewells are prefixed by the government. In this case, the major way of 'rent-seeking' by the officials is to replace the old or condemned engines with better ones supplied from BADC stores immediately before selling the tubewells. The officials can exercise their discretionary power to provide engines of different makes and models, and thus charge extortionate payments from the buyers (the evidence from our study sites suggest that the buyers had preference for Ruston engines to other makes e.g. Slavia Lister). This bargaining situation in selling the rented tubewells suggests that "public officials are thus able to function as 'discriminating monopolists' and fix 'market-clearing rates' for the services offered" (Jagannathan 1986). In the case of selling rented equipment, official's services are related to fixing lower price or supplying better engines before selling.

The process of selling deep tubewells has been extremely slow because of three main reasons: (i) unlike LLP, deep tubewells can only be sold to BRDB-KSS groups, involving a lengthy process for group formation and decision to buy tubewells; (ii) the purchase of deep tubewell requires higher downpayment; and (iii) the 'market-clearing rates' for the services of the concerned agencies are high. Our example of a KSS-managed rented DTW in Deulabari, Ghatail, gives evidence that the sale of the tubewell was delayed for two years largely because 'market-clearing rates' for the services of BADC officials were not agreed by the buyers.

Political Interference in Equipment Distribution

Wade (1982) described that the systematic political corruption and patronage causes poor performance of canal irrigation in a south Indian state. In a recent article, he argued that the elected politicians of a south Indian state earned huge illicit income through the corrupt officials of irrigation department, and that the politicians used their influence on 'personnel transfer' as a weapon to pressurize the officials to be corrupt (Wade 1984b). In Bangladesh we do not have evidence whether the politicians use their influence to pressurize public officials to be corrupt or whether the politicians use the 'personnel transfer' mechanism to earn illicit incomes through the corrupt officials. But we have some evidence of political interference in the distribution of minor irrigation equipment which caused the officials to, as Wade puts it, 'behave in ways contrary to the ostensible objectives of their departments' (1984: title page). The relevant examples are as follows:

Delivery of DTWs without loan arrangements

The first example relates to the delivery of 160 deep tubewells in Fulbaria, Mymensingh in 1980 and 1981. It was reported earlier in Mandal (1983) that the buyers, who did not complete loan agreement with bank, got these tubewells from BADC for only down payment of Taka 20,000 per tubewell. BADC had to deliver these tubewells on an emergency basis because of political pressures from the local elected member of the parliament. It was also reported by the BADC sources that they deliberately kept the spicer-shaft, a vital accessory, with them in an attempt to compel the tubewell owners to have completed loan agreement with Bangladesh Krishi Bank. At this stage, there was serious political agitation and pressures, which resulted in the release of 108 spicer-shafts in one day. Since then tubewells had been in operation, but the owners did not complete loan agreement with Bank until 1983 inspite of BADC's repeated reminder, nor did any tubewell owner pay any installment fallen due for the initial years.

Delivery of STWs without loan arrangements

This relates to the delivery of 155 shallow tubewells in Phulpur, Mymensingh as a special case. These tubewells were delivered to farmers against a down payment of Taka 2000 per tubewell (Mandal 1983). This was done in pursuance of an emergency circular in November 1982, which in view of the prevailing drought condition allowed farmers a special opportunity to buy STWs from BADC within 15 November 1982 for only downpayment, pending loan agreements with banks. As the BADC officials reported, there was so much rush that they had to deliver 360 STWs in Mymensingh sadar north and south sub-divisions in only 2-3 days. This meant that it was humanly impossible to verify papers or make any feasibility report. According to our knowledge these tubewell owners did not complete loan agreements with banks until 1983 nor paid the balance on BADC fixed cash price.

In the above two situations, elected politicians influenced the bureaucracy to violate the normal rules of equipment distribution, but they did it because, as Wade puts it in south Indian case, 'voters expect politicians to secure them favours or avoid penalties from bureaucracy' (1984, p. 5). But to ensure support from their own constituencies, politicians not only transmitted 'anarchy' in the irrigation administration but also contributed to the state of non-repayment of bank loans.

Loan Distribution and Loan Recovery

Most irrigation groups are inactive because of fundamental weakness in their composition. It is now an accepted fact that even the KSS groups are dominated by few rich farmers who have contacts with the officials of the related agencies. Loans sanctioned in the name of KSS are actually distributed to these dominant members who negotiate

with and pay 'incentives' to officials. They spend little of their loan money for the operation of irrigation equipment and divert most of it to other profitable enterprises. For example, a deep tubewell KSS in Gunogram, Ghatail has been used by the key persons as an instrument to obtain loans through BRDB, but the major amounts are taken by the manager and his brothers for their brick fields and rice boiler and hauler machines. Similarly, a deep tubewell manager of Korna, Ghatail obtained through BRDB a loan of Taka 30,000 in the name of KSS, but used the entire amount for his cinema hall. As this loan was not yet repaid by him, the KSS could not obtain any production loan from BRDB for which operation of the tubewell suffered seriously in 1986.

In both the situations described above, BRDB officials were less concerned about the distribution of loan amongst the KSS members, nor were they active to ensure loan recovery. As a result, most members, who did not benefit from the KSS loan, developed an apathetic attitude towards clearing off loan advanced for the purchase of tubewell.

One major shortcoming of the lending institutions dealing with irrigation equipment loan is the absence of any active programme towards loan recovery. The major concern of these institutions are to advance as much credit as possible in an attempt to fulfil the loan target within the stipulated period. No doubt, they are often ordered from high levels in government to disburse special loan at very short notice so that proper verification about the genuineness of borrowers is not possible. This is one of the main sources that allows bad borrowers to obtain most agricultural credit and offers opportunities for officials to earn illicit incomes. But these institutions do not take any special measure to realize loans, except issuing as routine job notices to borrowers by posts. In extreme cases, the banks institute certificate cases against defaulters, but such cases are hardly settled or loans are hardly recovered. Furthermore, on political grounds the institutions are often asked directly or indirectly to suspend any action against loan defaulters. It was reported elsewhere that there were about 400 certificate cases instituted against the defaulters of tubewell loan in Phulpur upto 1983, but the banks were asked by the members of the then ruling political party not to press the defaulters hard (Mandal 1983). Another important factor which neutralizes the efforts to recover loan is the illicit incomes earned by the bank officials from loan transactions. To what extent and at what level of officials such illicit incomes are earned is not known, but it goes like proverb in rural Bangladesh that '10 percent deduction as bribe has to be made from each loan transaction'.

BRDB has field supervisors and inspectors to look after the distribution and recovery of loan. They are supposed to meet KSS members at harvesting period to urge for loan repayment. But the attempts of the field supervisors and inspectors are very inadequate and ineffective for two main reasons. Firstly, field inspectors are overburdened in that each inspector has to do the tedious job of keeping contact with at least 20 KSS over wide geographical areas. Secondly, inspectors are the local staff paid by upozela central cooperative association (UCCA), and they are recruited from locality.

Their various relationships with local borrowers impede them from taking any effective step towards loan recovery. Rather, in many cases, they try to protect their local friends and relatives from paying penalties for non-repayment. An influential manager of shallow tubewell under BRDB loan in Mundail, Kalihati, reported that he could go without paying loan installment because the UCCA chairman was his close relative and the field inspector was from his own kin.

As a notable exception, Grameen Bank has shown very high recovery of tubewell loans in recent years. It was reported earlier that all of 3 DTWs and 8 STWs operated by Grameen Bank landless groups in Ghatail and Kalihati upazelas of Tangail in 1985 season were cleared-off debt within the bank's specified period of 50 weeks (Mandal 1985). There are two major reasons for this success. Firstly, Grameen Bank groups are overwhelmingly composed of landless and marginal farmers who see regular repayment as a security for further loan. Since these groups have no other source of capital to carry on their petty business or tubewell operation, they are specially careful to ensure that the members repay their individual as well as joint loans on time. Secondly, loans advanced by Grameen Bank are closely supervised by the bank staff. It is mandatory that the field assistants of Grameen Bank meet the landless groups at each development centre once a week to collect weekly installments. Above all, loan recovery by the bank staff is evaluated by the branch manager once a week, while the performances of the branches are evaluated by the regional manager once a month.

Support Services

Inadequate support services rendered by the irrigation agencies affect performance of equipment. As a matter of fact, only BADC has a provision of free repair and maintenance services for five years, but in the case of breakdowns caused by mishandling of machines cost of spare parts has to be borne by tubewell owners/managers. Hamid *et al* (1982) report that BADC mechanics also charged for their 'free services', which were scarce in many areas. Tubewell owners/managers are also highly charged for spare parts because it is impossible to prove that breakdowns are not caused by mishandling. An interesting report about the inefficient support services of BADC was obtained from a KSS-managed DTW in Deulabari, Ghatail. Rental charges for the tubewell were not paid for three years because it was in the process of being sold to the KSS group with BRDB loan. In 1986 irrigation season, as the column pipe of the tubewell broke down, BADC was approached for repair. BADC instead of immediately repairing the tubewell, insisted on the group to pay all outstanding rental charges. The group ultimately had to divert money from the down payment deposited earlier to BADC for the purchase of the tubewell, towards repayment of rental charge for one season before the column pipe was repaired. In the meanwhile, three-week closure of the machine had caused serious damage to the crop. As a consequence, BADC's action has delayed

the process of selling the rented tubewell because down payment had to be deposited anew, but it was obvious that rental charges also remained unpaid for the interim period.

Under the previous rental system one of the support services of BADC was to construct short pucca canals near the tubewells to facilitate conveyance of water to kutchha canals. There were reports from Fulbaria, Mymensingh that BADC did not construct pucca canals as expected nor did it reimburse money when constructed by the managers. Tubewell managers reported this as one of the reasons for their decision to stop paying rentals (Mandal 1983).

Electricity Connection

In recent years irrigation equipment are being electrified by the Power Development Board and Rural Electrification Board. It was widely reported by the tubewell owners in Tangail during our field survey in 1985 and 1986 that electricity connections were provided through contractors who charged them at exorbitantly high rates varying from Taka 25000 to 30000 for DTWs and Taka 10000 to 15000 for STWs. The contractors arrange for these connections through negotiations and contracts with the electricity officials. As a result, private negotiations take place between contractors and tubewell owners encouraging illegal installation of tubewells which cannot otherwise be sited according to the 'tubewell to tubewell spacing' specification of BADC. This happens mostly in the case of STWs as these are easily movable and can be purchased from many agencies as well as farmers. In other words, the act of providing irregular electricity connections by the government agencies through contractors encourages indiscriminate installation of tubewells, which in many cases affect tubewell performance by reducing command areas. For example, in Korna, Ghatail, the owner of a STW purchased with BKB loan reported that his command area was drastically reduced in 1986 as a result of illegal installation of an electrified STW which encroached upon his officially approved command area. As the electricity connection to the illegal STW was in progress, the owner of the BKB shallow tubewell protested against it, but the concerned Residential Engineer just ignored it because he earned illicit income by allowing this connection. Although the reduction in his command area was partly the result of village rivalries, the STW owner attributed his huge defaults in loan repayment mainly to the reduction in his command area.

Irregular connections are given inspite of the failure to ensure regular electricity supply. This causes interruption in water supply resulting in poor performance of irrigation equipment. In the case of electrified tubewells without meter, another serious allegation was that the tubewell owners were charged on the basis of maximum average consumption rates irrespective of actual consumption. Average consumption rates are estimated assuming a power factor of 0.8, and ten operating hours per day for DTW and eight hours for STW over a period of five-month irrigation. For example, owners

of Gunogram KSS-DTW in Ghatal were charged an average electricity bill inspite of the fact that the tubewell was connected with the electricity line in the middle of 1983 irrigation season and there were frequent load shedding or power-cut during the season. We were told that the officials deliberately disconnected electricity supply line after transplanting of paddy and thus pressed the tubewell owners to pay arrear bills and bribes. This resembles Wade's south Indian canal scenario where the irrigation officials used control gates as a means to collecting extortion from irrigators.

III. CONCLUSION : INEFFICIENCY TRAP

The state of non-repayment has reached an alarming stage in recent years because attempts to recover loans are eventually caught in a situation which is called here 'bureaucratic and political inefficiency trap'. Political inefficiencies are largely related to state patronage and subsidies which discriminate between farmers and among irrigation technologies and institutions. Imperfectly designed institutions have so far failed to give rise to greater technical or allocative efficiency of irrigation equipment given the imperfect factor and product markets (Mandal 1987). Broadly speaking, these inefficiencies lie in the discrepancies between policies of removing subsidies and the actual practice of continuing direct subsidies on DTW and indirect subsidies in the form of non-repayment of rental charges and bank loans for equipment. With privatization of equipment, major share of direct and indirect subsidies is going to large farmers, who are the dominant forces to influence both politics and bureaucracy. As a result, they have a tendency to default repayment of loan and rental charges inspite of large profits accumulated from their increased production and water sales.

Bureaucracy has failed to recover loan, and part of its failure is attributed to political interference in irrigation and loan administration. But the major areas of bureaucratic failures are associated with inefficiencies and corruption in the allocation and installation of equipment, distribution of loan and provision of support services. Since these are largely responsible for poor performance of irrigation, owners/managers of equipment have a common tendency to attribute their defaults in repayment of loans and rentals to bureaucratic inefficiencies and corruption. It is not claimed here that the owners/managers of irrigation equipment always show legitimate cause for their defaults, especially when they earn huge profits from using these equipment, but the fact remains that bureaucratic inefficiencies and corruption is a great black hole in the implementation of irrigation programmes.

The state of huge defaults of loan advanced to private industries has also affected, by implication, repayment behaviour of tubewell owners/managers. Sobhan and Mahmood (1981), in a study of specialized financial institutions showed that actual repayments stood at only 22.5 per cent of recoverable loans as of end March 1982 under the terms of loans

contracted by private industrialists. It is not surprising that some well informed tube-well owners in our study areas who defaulted bank loans cited newspaper reports of huge loan defaults by few industrialists of the country as an excuse of their defaults. This analogy is cynical but not necessarily 'false analogy'. What happens here is that a 'circular causation with cumulative effects operates', as Myrdal puts it with reference to spread of corruption in South Asian societies (1968, p. 924). To use Myrdal's reasoning in our case, as people are convinced, rightly or wrongly, that non-repayment of loans and rentals is widespread, the willingness of an equipment owner/manager to repay tends to be weakened. 'This again, contributes to inertia and inefficiency in a society' (1968, pp. 954-55).

The analysis of this paper suggests that the bureaucratic or political attempts to recover equipment loans and rental charges tend to be ineffective in Bangladesh, with 'the rule of law constantly abrogated by the power of money', in the meaning given to the terms by Wade with reference to irrigation reforms under condition of 'populist autarchy' in India (1984a, p. 298). In effect, bureaucracy and politics, the 'institutions of governance', have fallen into a 'trap' where they have themselves become a means by which pervasive non-repayment of loan and rental charges exist.

To come out of the trap is difficult but not impossible. One line of approach is reformative, which suggests restructuring the functions of irrigation institutions. For example, Quasem *et al* (1984) propose new roles for BADC, which include the following: BADC should act as guarantor for bank loan, and it should be paid 'incentives or bonus' for recovering such loans; and financial institutions on the other hand may be paid a nominal service charge'. They also suggest that quota restricting access to institutional credit may be imposed so that landless cooperatives can buy equipment entirely with loan, farmers' cooperatives may get credit for 25 per cent of purchase price, and individuals shall buy on payment of cash (1984, p. xvii). It is very likely that assigning authority of loan administration to BADC in addition to its already overburdened responsibilities, will lead to further inefficiencies and corruption. Their suggestion for credit restriction seems logical as a matter of principle, but this alone is unlikely to improve the repayment situation significantly unless such action is accompanied by greater efficiency and discipline of financial institutions and irrigation related agencies. Hamid (1986) goes further to suggest, by quoting verses from the holy Quran, that self-purification through the pursuit of religion is required to remove bribes and corruption from the society, and hence improve the performance of development programmes including irrigation.

In an attempt to improve the recovery of bank loans and rental charges for irrigation equipment, following policy measures are suggested in this paper :

- (i) The lending institutions need to direct more emphasis on loan recovery through close supervision of loan utilization than merely concentrating on loan distribution.

To increase accountability and efficiency of the institutions, appropriate system of incentives and sanction for officials should also be imposed.

- (ii) To increase technical efficiency of irrigation, BADC officials should emphasize more on fieldworks related to technical feasibility studies than on preparing reports based on limited verification or information. The redirected approach should include hydrological survey, soil mapping and contouring, delineation of command areas, and preparation of canal layout. BADC should strictly enforce regulatory measures for realization of equipment rental charges.
- (iii) Above all, politicians should realize the serious implication of huge non-payment of bank loans and rental charges ; and they should work for raising public awareness and establishing the rule of law in the society.

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