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FINAL REPORT ON

MODIFIED RATIONING IN BANGLADESH

AN EXERCISE IN REFORM TO INCREASE
ITS EFFECTIVENESS

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16 MOTIJHEEL COMMERCIAL AREA
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MODIFIED RATIONING IN BANGLADESH: AN EXERCISE IN REFORM TO INCREASE ITS EFFECTIVENESS

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Preface

How to improve the performance of the rationing system in terms of its impact on the welfare of poor people, especially in rural areas, of Bangladesh has been an increasingly important concern in recent times. This study attempts to take our knowledge and understanding of the Modified Rationing further.

On behalf of Mr. Ashraful Haq, Managing Partner, Beacon Consultant and on my personal behalf, I wish to express our deep appreciation to the US AID for conceptualising and supporting the study. In this regard, we owe particularly to the stimulating intellectual contributions of three staff of US AID Dhaka Office, M/S. Lowell E. Lynch, A.S.M. Jahangir and G. Kabir to the design and execution of this study. Of course, none of the short-comings are dur to them.

The study was conducted by a team of researchers comprising Dr Nuimuddin Chowdhury, Dr Ali Ahmed Rushdi and Mr. Karimullah Bhuiyan. Dr Q. Shahabuddin substantially contributed in the early phase of the work. The resulting report was written by Drs. Chowdhury and Rushdi. We are grateful to Mr. Ashraful Haq, Managing Partner, Beacon Consultant and Mr. A.N.M. Azim, Administrative Officer of the project, who provided excellent administrative, logistical and coordination support, without which the timely completion of the study would have been impossible. We also want to cite the dedicated support rendered by our colleague on the team, Mr. Bhuiyan, the Asstt. Project Manager.

In the execution of the study, we were put in the debt of the following persons and institutions: Mr. Nurun Nabi Chowdhury, Secretary, Ministry of Food, Govt. of Bangladesh (GOB); Mr. Abidur Rahman, ex-Secretary, Food, GOB; the Director General, Directorate of Food (DOF);

Mr. Ghiyasuddin Ahmed, Chief, FPMU; Mr. Shamsul Alam, Director, S.D.M., DOF; Director, Directorate of Agricultural Marketing; Resident Representative, World Food Programme, Dhaka. Each of these persons/offices gave us generously of their valuable time and shared with us knowledge and insights that have benefitted us greatly.

All remaining shortcomings are the responsibility of the two authors.

Nuimuddin Chowdhury

GLOSSARY

CD	Canal Digging
DF	Distress Factor
DOF	Directorate of Food
DPL	Distribution Priority List
EP	Essential Priority
FM	Flour Mills
GR	Gratuitous Relief
LE	Large Employer
LSD	Local Storage Depot
OMS	Open Market Sales
OP	Other Priority
MO	Marketing Operation
MR	Modified Rationing
MRR	Ministry of Relief and Rehabilitation
PFDS	Public Foodgrain Distribution System
SR	Statutory Rationing
TR	Test Relief
UP	Union Parishad
VGFP	Vulnerable Group Feeding Programme
VGD	Vulnerable Group Development

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Summary of Recommendations

1. Continuation of Modified Rationing (MR) in a reformed framework is desirable, both in the interest of achieving greater equity in directing PFDS deliveries, but also of stimulating aggregate foodgrain demand.

2. Discontinuation of MR in its conventional form is urged.

3. The whole of MR allotment of wheat be distributed through the instrument of approved chakkis in pourashavas and the unions, except in four districts (see below). Rice may be distributed using the MR dealers.

4. Famine-prone upazilas (which means those with relative distress rank in excess of 1.00) should receive 1.25 the allotment per card of average or better upazilas (those with distress levels of 1.0). Pourashavas should receive 0.67 times the allotment per card of average or better upazilas.

5. MR dealers and chakki-owners outside pourashavas face a differential transport costs to their disadvantage, which lowers their lifting-to-allotment ratio. It is recommended that issue price favouring outside-pourashava dealers and chakki-owners be kept lower by 3-4% as compared to pourashava dealers and chakkis.

6. Allotment of wheat and rice to dealers outside pourashavas should be on a 70:30 ratio. For the pourashavas, the wheat-to-rice should be, roughly 30:70. This will, to a large part, neutralise the effect of lower issue price favouring rural MR allotments.

7. A Food Distribution Unit, to be managed by Grameen Bank for example, should be instituted, on a pilot - project basis, to institutionally intermediate the supply of subsidised foodgrains among households with upto 0.50 acres of land in four districts where intensive conscientisation and organisation of the poor under Grameen Bank's aegis has taken place.

8. It is recommended that a small-scale technical study of the optimum milling, packaging and/or blending maize for distribution in MR in place of rice/wheat be carried out.

Executive Summary

Objectives and Methodology

This is a study of the scope, character, consequences and possible reforms of Modified Rationing (MR) in Bangladesh. The study is sustained by a comprehensive blend of primary and secondary data, by both cross-section and time series data about virtually every aspect of the administration of MR in the country. The king-pin of the data that sustains this study is carefully collected data from 289 randomly-selected households from eight districts representative of Bangladesh.The study has its basis in careful analysis of the information so collected. It also includes a summary of recommendations that arise out of the results obtained.

On Some Macro Trends in Food Economy

Even in a study with sectional focus on MR, one needs a sense of overall perspective about the macro movements of the food system. During 1972/73-1986/87, aggregate availability of foodgrain, rice and wheat grew at a trend rate of 2.63% per year. Per capita availability, however, grew only at 0.31%. Time-series regression results indicate that the modest growth in availability is better explained by supply-side variables than by demand variables. This is primarily due to a tepid income growth of the period.

Offtake-Availability Ratio

Offtake-to-availability ratio has ranged between 9 to 13 per cent in most years. The data here suggest a slight secular fall in offtake-availability ratio in the 1980s. If 1984/85--a year when floods led to what was later considered to be excessive levels of foodgrain imports by the government--is excluded, that conclusion can be made more strongly. At any rate, the country is still far from the achievement of foodgrain self-sufficiency, which, according to the Second Five Year Plan of the government of Bangladesh, was to be achieved by 1985. An ominous sign is that two times in three years 1984/85-1986/87 natural calamities had necessitated purchase of foodgrains on commercial terms by drawing down international reserves and by contracting short term credit. The outlook of the health of Bangladesh's food economy therefore does not warrant much optimism.

Desubsidisation of PFDS Deliveries

There has been a significant de-subsidisation of foodgrains in public rationing since the mid-1970s. This has to be seen against the backdrop of these above developments. It is fitting that de-subsidisation has been accompanied by declining relative shares of monetised channels of PFDS. SR, MR, LE, FM, and OP have all suffered varying degrees of roll-back in their respective scope. This had led to a relative ascendancy of the open market as a source of supply of foodgrain. Consequently, price stabilisation role of public intervention in food markets has become more important, thereby raising the relative share of OMS. One of the hopeful aspects of the evolution of the PFDS is that FFWP has been steadily increasing in its importance. This channel has some ability to contribute to alleviation of rural poverty and at the same time to improve rural infrastructure and access to markets.

MR must mean less of foodgrain that can be channelised through FFWP or VGD. This relationship of conflict has to be borne in mind as we deliberate reform options in MR. If one has to choose between MR on the one hand and FFWP or VGD on "as is" basis in terms of direct targetting of the poor, there is little doubt that we should pick up the latter.

MR is the only monetised channel of PFDS to have the poor in both urban and rural Bangladesh, as its de jure constituency. Its status in terms of receiving allotment is one of not priority but residuality. Its allotment is predicated upon what is left after priority channels' demand has been met. Its beneficiaries are supposed to be households that pay no or little taxes to the locally elected institutions. The local institution of relevance to rural MR is the Union Parishad.

Allocation of MR Foodgrains: A Causal Framework

Time-series,aggregate-level regression results suggest that, allocationally, offtake by priority channels (significantly) negatively affected MR offtake, appropriately standardised. On the demand side, price relatives between ration and market price, wages and agricultural value added per capita are all significant influences on MR offtake. These results show that offtake decisions are on the demand side dependent on price and income variables. That the offtake decision by MR dealers should take a cue, among other things, from price relatives and income variable is a confirmation of what had been guessed all along, viz. that, in MR, the line between public rationing and private profit-seeking market is a thin one.

District level regression results confirm the supply-side basis of MR offtake activity suggested by time-series regression, namely that priority-channel offtake significantly reduces MR

activity. On the demand side, the importance of price variable was again suggested, this time indirectly. Both sets of results underscore the responsiveness of MR offtake decisions to market forces of prices and income.

Suitability of Eligibility Conditions

While eligibility to the benefits of MR is defined in terms of tax status, the value attached by a representative rural household below poverty has fallen according as unit budgetary subsidies have fallen steadily due to the policy of subsidy roll-back. At the same time, however, costs of enforcing one's eligibility have risen. Net benefits of rationing have fallen considerably more recently (section 2 3) MR subsidy as a percentage of market prices is estimated at no more than 10% for rice and 5% for wheat in 1985/86.Of the foodgrain consummed per capita per year by only 11 out of 289 households on our sample,foodgrain received under MR during all of 1986/87 amounted to 2% only. If compared with overall annual foodgrain consumption per capita of the sample (including both households that received MR support and those that didn't), MR must have even a lower visibility on rural household food balances (section 2.3). Eligibility has thus become less and less important as a concept.

DPL Versus Effective Screening of Poorest half

Eligibility conditions are denominated in terms of chowkidari tax cut-off marks, of upto Tk.10 per year. These conditions are enforced on the strength of the DPL. The basic data about the taxability of various rural households contained in DPL are frequently collected by chowkiders, whose salaries are generated by the proceeds of the tax. This body of data is relatively inexpensively collected and put into use. It is, therefore, of some significance that the eligibility conditions themselves

are quite suitable. The tax cut-off marks for 'A' and 'B' cateegories appear to sort out the poorest 50-60% of rural households (section 2.3). Of 13725 households in the eight unions owning upto 0.50 acre of land--and may be termed functionally landless--89% are in either 'A' or 'B' categories. Of 3441 households with between 0.51 and 1.0 acre,72% are in either 'A'or 'B' categories. DPL correctly sorts out households with functional landlessness or marginal landholding. On that score, it is doing an adequate job (section 2.3). Earlier critiques of the utility of DPL on the ground of datedness, though factually correct, understated the usefulness of the informal information network at the disposal of the UPs in the matter of DPL.

The limitations of the system of MR have to do not so much with whether the eligibility criteria are suitable (they are) or with the controllability of proper classification (there is controllability) as with whether, and to what extent, MR dealers can be prevailed upon to lift MR grains and distribute them according to the law (section 2.3).

Urban Bias of MR

This study confirms, once again, a conspicuous urban bias of MR (section 2.3.2). On a per-card basis, pourashava allottees are allotted relative to those in the unions 4.6 times as much. Because of a higher lifting-to-allotment ratio, pourashava beneficiaries fare relative to those in the unions on a 5.54:1 ratio when liftings are used as basis for discussion (section 2.3.1). Higher lifting-to-allotment ratios are due, in large part, to advantageous handling commission meted out to pourashava dealers relative to those in the unions. The view that MR is the step-child of rationing in Bangladesh, and rural MR the step-child of MR, remains as apt in 1984/85-1986/87. (This coinage is due to Chowdhury et al, 1986).

MR and Regional Prioritisation

The higher the average distress level of the districts, the lower is MR allotment (and lifting,too) per card (section 2.3.1). District regression results indicate that MR lifting (by MR dealers) per card always has a negative coefficient on district distress factor (section 2.2). This was true both for rural as also pourashava rationing. This means that districts with low distress levels are allotted--and lift--larger quantities of foodgrains per card than districts with greater food risk levels. As against a clear imperative for reprioritising the entitlements of vulnerable districts in MR, a deprioritisation in fact takes place.

Consequently, MR remains unfocussed, both in terms of the degree, as also the location of poverty in Bangladesh, even though this remains the only monetised channel with the poor as its de jure constitutency.

Household Budget and Modified Rationing

Section 2.4 was devoted to

i) the consumption pattern of the households in the study area;

ii) incidence of MR on household food balance; and

iii) the incremental budget importance of wheat and atta of consumers with varying degrees of income.

Expenditure on food constitutes about 78% of the total. Of the total expenditure on food, rice and wheat account for about

43% and 7%, respectively and the rest by other food items. Households in the lower quartiles spent a higher proportion of their income on rice and wheat, those in higher quartiles spend relatively more on non-staple food items. The higher the absolute income per capita, the higher was the absolute expenditure on all items except atta. Atta has a negative income elasticity in the highest quartile and positive income elasticity in the lower three quartiles taken together. This is also reflected in the negative marginal propensity to consume atta in the highest quartile as compared to positive marginal propensity to consume in the lower quartiles. These demand characteristics of atta make it ideal as a ration commodity (Table 2.15).

Incidence of MR on household balance sheet has been discussed in sub-section 2.4.2. Expenditure on ration goods represents only one third of one percent for the bottom 75% of households and less than one fifth of one percent for the fourth quartile. Expenditure on ration appeared insignificant even when expressed as a percentage of expenditure on cereal alone as against total per capita expenditure. Its share remained less than one percent (see table 2.17).

Whereas landless households (defined as those having less than 0.5 acre of land) represent more than 54% of the total, only 18% of them have ration cards. Our survey results indicate that only 3.8% of them have received any ration in 1986/87.

Incidence of distribution of ration, in the form of wheat as opposed to atta has been discussed in sub-section 2.4.3. It was found that wheat distributed through chakkis represents about 14% of the combined atta and wheat distributed through MR.

Assessment of MR as a rationing channel has been given in section 2.5. It has been observed that the gap between the amount

lifted and the amount distributed was very large. Nearly four-fifths of the wheat and three-fifths of the rice alloted to the MR dealers appear to have leaked to the market supplies (section 2.5). Distribution under MR among beneficiary households was very, very infrequent (not more than five times in the whole of 1986/87 on our sample) (section 2.7). Average quantity distributed to a beneficiary household per transaction worked out at slightly above 5 kgs. (section 2.7).

The number of ration cards issued does not have any correspondence with the prevailing state of poverty in an area.The number of households with ration cards constitutes only a microscopic minority of the total. This reduces the force of the imperative of the continuation of MR.

Section 2.6 has been devoted to overview of the experience gathered in India and selection of commodities for self targetting. The experiences of Tamil Nadu project in India have been discussed. The geographical targetting practiced in India has also been referred to. The Tamil Nadu project is, however, very appropriate to Bangladesh conditions because in this country the magnitude of the problem is vastly larger.

In selecting a self-targetting commodity reference has been made to the estimated income elasticity and marginal budget share found in the case of wheat and atta. Considering the survey results as regards acceptability of maize at 10% subsidy, it has been concluded maize can be introduced as a blending component with atta on an experimental basis. It is expected that this will self target the poor.

Of course, it is advantageous from the viewpoint of both MR dealers and households if large volumes of ration foodgrains could be transacted per transaction. However, where the poor are

concerned, there is a fine tension between gains of large-volume purchase, and the opportunity costs of carrying stocks in terms of consumption of other items. Prevailing MR distribution is very infrequent. Average quantities are very small. Without expanding the activity of MR, or raising budgetary subsidies, from current levels, it does not appear feasible to significantly increase distribution frequency or volume. We do not recommend either of the latter options (section 2.7).

Localization of distribution centres has been discussed in section 2.8. It has been concluded that the most suitable distribution centres will be ones which the households visit in the course of their ordinary business of life and not specially for the purpose of lifting ration. Obviously such places are the market places in the countryside. The prevailing MR system has accommodated this principle wherever possible, and further improvement does not appear likely to materialise without major commitment of investment resources. We do not assign high priority to such a course in the service of such a goal.

Socio-economics of the Institution of MR Dealership

MR dealers possess entrepreneurial qualities and have educational background comparable with those in chakki business. But they earn a negative rate of return on the capital invested in MR dealership.

Despite the negative rate of return obtaining in the business, the number of MR dealers has increased between 1980/81 and 1986/87. This raises the important question of how they survive. An attempt was made to answer this question (section 3.4). It was concluded that the following either separately or collectively or in combination explain the phenomenon:

a) The MR dealers have other business(es) for which they use the .same premises, capital, manpower and other facilities;

b) The dealers divert a sizeable portion of their allotment to the open market. They, thus, seek to improve their financial position, as against the loss frequently incurred on the portion they sell to the households included in the DPL;

c) The dealers often take out more foodgrains from the government godowns than their allotments, in connivance with godown staff.

d) MR dealers take unfair advantage of short weights at the expense of ration receivers.

MR dealers consider chakki owners as harmful to their business interest. This is in sharp contrast to what chakki owners think about MR dealers.

Acceptability of maize at 10% subsidy is considered probable by most MR dealers.

Socio-economics of the Approved Chakkis

Chakkis are not confined to wheat milling alone. They also mill paddy and spices.

Government allotment of wheat under MR constitutes only 2.05% of the total wheat crushed by an average chakki and represents less than one percent of its annual turnover.

Chakkis are functioning not only as an integral channel of PFDS but also as complementary to other modes of PFDS in the sense that wheat received through other channels are taken to chakkis for crushing.

The capacity utilization of chakkis is rather low. It is, therefore, evident that no additional capacity will be required if government decides to channel more wheat through chakkis.

Chakki owners perceive the coexistence of MR dealers rather beneficial to their business interest. This is contrary to the view held by MR dealers about chakki owners.

Chakki owners rate that a favourable consumer reception of maize distributed at a 10% subsidy would be quite likely.

Alternatives to Modified Rationing

By alternatives to MR in this study is meant alternatives to conventional MR (i.e. the distribution of wheat and rice through the instrument of MR dealers).

Overlap between Ration Channels

District-level regression results,presented in chapter 2, suggested that the inter se relationship between MR on the one hand, and the other appropriate channels of rural rationing is not one of territorial overlap but of trade-off (section 2.2). Analysis of household data for 1986/87 confirms that there too the relationship is one of a trade-off. Overlap therefore does not appear to exist, either at the district or household level. The problems of rural poverty that is for MR to address (in terms of direct conveyance of subsidised foodgrains to the poor) is not made easier due to any overlap with channels, fortuitous or not.

Regionalisation of Distribution

We have argued strongly in favour of regionalisation of priorities for distribution. This is done mainly on the ground of equity. Location and geography obviously matter in shaping how rural people can take advantage of or are buffeted by the food system. This theme has now integrated into the characterisation of the problem of poverty, as also into the forging of poverty instruments used, in Bangladesh. The MRR and WFP has since compiled upazila level distress ranks which now inform foodgrain allocation in FFWP. Because upazilas differ in their proneness to famine condition--the latter being closely related to the distress levels--a case for reprioritising the entitlement of famine-prone upazilas in MR has been argued to the deprioritisation of distribution in non-famine-prone areas and in pourashavas (section 5.2). A formulaic specification of the reprioritisation has been included (section 5.2). Because differential unit transport costs to the disadvantage of union-level MR dealers and rural chakkis is largely responsible for their lower lifting-to-allotment ratios, a differential in issue prices of MR grain in their favour to the tune of 3-4% is recommended (section 5.2). Such a duality of pricing of MR foodgrain is administratively feasible, and desirable, equity-wise (MR dealers would be left to deal only in MR rice in pourashavas and unions.). All the inputs prerequisite to the formulation are arguably easily available to DOF officials. The transition to a geographically-sensitive distribution-modality for MR will not likely be administratively too cumbersome (section 5.2). Of course, it is recognised that the reprioritisation will divert additional grains in to more vulnerable regions. Won't it be plagued by possible mismatch between higher allotment and a deficiency of capacity to buy? It is argued that reprioritisation will likely lower prices in vulnerable regions. Because of high budget share of foodgrains for

the poor, the income effect of lower prices would take care of the said mismatch.

Alternatives to MR

Alternatives to MR are defined to include reforming conventional MR, as well as suggestions of altogether new institutional formats for carrying on rural rationing (section 5.3). The litmus test for what is a reform includes: a) the inclusion or promotion of a commodity with greater self-selection of the poor; b) a form of distribution that increases self-selection by the poor; c) reprioritisation of poor regions; and d) a movement from general rationing to direct targetting (section 5.3).

We are against any attempt to prop up conventional MR through, may be, the institution of a more current and accurate DPL together with the institution of a greater degree of DOF supervision at district level of MR (section 5.3). This is because a) DPL does an adequate job, cost-effectively (a <u>much</u> more accurate DPL would be a costly affair); b) unit budget subsidies have fallen (and should stay low), which does not make it worthwhile for anyone to raise the stakes in favour of control by usually costly administrative supervision; c) there is not a good deal of underutilisation of administrative capacity of DOF officials at the district levels and below (section 5.3). In short, it is argued that an artificial resuscitation of conventional MR is possible but the benefit-cost ratio of such MR is bound to be low.

Chakkisation of MR Supplies

We recommend that 100% of wheat allotted to MR be distributed through the medium of approved chakkis wherever such chakkis exist (except in four districts where something else is recommended). This is because, first, "chakkisation" means

greater likelihood of wheat lifted in MR being milled locally than would be true were MR dealers to be the allottees (section 5.3.1). Geographical targetting is easier to secure with the chakkis. Second, faced with small volume of unit transaction and high transport costs, the balance of the advantage of conventional MR presupposes ability to carry a considerable quantity of foodgrain stocks--something that is ill-adapted to circumstances of the perennially cash-strapped poor rural household. "Chakkisation" obviates this problem in that,while chakkis wholesale atta, bazaar retailers retail in flexible quantities, frequently providing credit at that. This is material to the ability of the poor to stabilise consumption.

The apprehension that chakki-owners will reappropriate the subsidy that is meant for the rural poor has been addressed. An analysis of the level and variability of price of atta (and coarse rice) showed that the price dynamics in both markets were very similar. Distributional costs of atta including traders' profits were found to be reasonably competitively determined (section 5.3.1). It is against this backrop that this is very significant that approve chakkis depend for no more than only 2% of the quantity of wheat milled on allotments under MR.

Finally, we have argued for a new kind of institutional intermediation of foodgrains in MR. The proposal has its point of departure in the fact that some of the non-governmental organisation (e.g. the Grameen Bank(GB) have established a comparative advantage in forging a cost-effective and accountable delivery and receiving mechanism. Starting with delivery of credit, GB has now branched off into other vistas of rural development (e.g. management of dairy farm, fish farm, tubewell groups). The proposal is for the formation of a GB Food Distribution Unit (FDU) which is envisaged to institutionally intermediate subsidised foodgrains among households with upto 0.50 acres of land

in four districts of Bangladesh on a pilot basis. GB has a well-known track record of correctly ascertaining land ownership of poor households, and is creditted with innovative organisation formulation in that regard. The operational idea would be to issue foodgrain to FDU for distribution in four districts where GB has had at least five years of investment. FDU would have the advantage of dealing in foodgrain over whole districts. Economies of scale in distribution will be available to it. Of course, resources have to be committed to the creation of the unit. We believe that the marginal investment of resources thus implied (as compared with the status quo of leaving conventional MR intact) can be paid for by the scheme through economies in distribut' . more successful targetting on food balances of the poor which in turn generates greater demand for food and other manufactured goods etc.

Updating of DPL

As regards possible criteria to be followed in the preparation of DPL, the existing DPL, although prepared on the basis of the chawkidari tax payment on the whole, reflected the level of poverty measured in terms of the level of landholding (chapter 6). Existing DPL was functioning well despite its datedness. There is no denying the fact that the DPL on the basis of landholding records may provide a somewhat better basis regarding the level of poverty. But it was considared costly, and would likely have low benefit-cost ratio owing to the limited coverage of MR in the recent past. Ultimately, a full -fledged census of land ownership may not provide us with more reliable information than we have in the DPL.

Chapter 1

The Objective and Methodology of the Study

1.1 The Objective of the Study

The terms of reference of this study may be examined in the following, To quote

a. Review the MR channel of PFDS in the light of the findings of the earlier study and recommend measures for making MR an effective channel in reaching the intended beneficiaries with subsidized foodgrains. This would require in-depth analysis of the allocation process of foodgrains for MR, setting of eligibility criteria for various catagories of recipients under the channel, types of staples to be offered through the channel with particular emphasis on self-targetting staples like maize. Identify areas that need further strengthening and explore suitable distribution centers such as existing permanent outlets located in village markets.Determine the most feasible frequency of distribution, i.e. weekly/fortnightly/monthly and the lot-size to be offered each time.

b. Idenfity methods other than MR to deliver subsidized foodgrains to the rural poor. Design procedures and appropriate guidelines for exploring such alternative means of delivering food. Regionalization of the channel may be looked into and overlapping of different channels be eliminated.

c. Recommend ways and means for updating the existing Distribution Priority (DP) list which has not been updated since its preparation during the late 70s. Provide necessary methodology and guidelines for conducting the task of updating the DP list.Unquote.

It is worth making a few observations by way of highlighting the more important objectives put forward in general terms in the above TORs.

First of all,this is a study about the character,modalities, consequences and limitations of Modified Rationing in Bangladesh primarily using cross-section data relating to rural households, MR dealers, owners of atta chakkis in rural areas, and a sample of foodgrain dealers.In short, the objective, in part, is to assess the MR as a rationing channel from the viewpoint of its overall MR distribution operation of rice and wheat, of its effect upon food balances of rural households who are eligible to support, of inter-regional equity implicit in the distribution of MR foodgrain as between rural and urban areas.

Second, the objectives of the study include the examination of the desirability and feasibility of reforming the system in terms of its inherent capability for poverty targetting. Alternatives examined must include changes in the distribution regime, in the mix of grains as also in the forms in which they are distributed, in the regionalisation of the distribution, etc.

Third, the objective of the study is to examine the desirability and feasibility of the Distribution Priority List being made a more sensitive, accurate and current tool in the service of a more equitable regime in MR.

Fourth, to make a number of relevant recommendations about the MR.

Although the cross-section character of the data underlining the study is readily conceded, we have made use of what we have thought to be relevant time-series data in obtaining a better understanding of certain so far neglected dimensions of MR.

I.2 Methodology of the Study

The study is sustained by a mix of primary, cross-section data on the one hand, and time-series data on the other. Primary data have been generated through four sample surveys conducted in eight rural unions, purporting to represent all of the four divisions of the country. These are as follows:

a) Survey of 289 rural households drawn from a stratified complete enumeration of households in these eight unions.

b) Survey of 27 MR dealers.

c) Survey of the owners of 33 atta chakkis.

d) Survey of 40 foodgrain traders.

Secondary data used include a) country-wide offtake under various rationing channels 1972/3 through 1986/7; b) foodgrain prices, ex-ration and in the market (for coarse rice and wheat); c) harvest price index; d) real wage index; e) district-wide (new district) allotment and offtake in MR, EP,OP and LE in 1986/7; f) district-level distribution of rice and wheat under FFWP, VGDP; g) district-level number of MR cards in 1986/7.

The king-pin of the primary data generated for the study happens to be the househould survey. We shall, therefore, present here its salient features.

1.3 Methodology of the Household Survey

All 64 new districts were first stratified in terms of foodgrain distributed per 1000 population under FFWP in 1986/87. For districts in each division, 1st and 3rd quartiles were estimated using FFWP foodgrain per thousand population. For each division, two districts were randomly selected, one from first and the other from third quartile. Because FFWP activity closely corresponds to territorial differentials in the degree of vulnerability, this procedure is likely to give the sample representativeness in terms of territorial variation of poverty in the country. Thus we had eight districts. From each of them, one upazila was randomly selected. From each of the resulting eight upazilas, one union was selected on the basis of consultations in the field by the research team. The idea was to select reasonably accessible unions that were more or less representative of the upazila as a whole.

Having thus selected the unions, a complete enumeration of households in them was carried out. Land ownership, household size, possession of ration cards were the three variables covered by the census questionnaire. Households in the unions were stratified in terms of land-ownership. The desired sample size of about 290 households was prorated within the eight unions on the basis of population shares. For each union , the sample size thus arrived at was prorated among land classes.

Chapter 2

A Review of Modified Rationing of the PFDS

2.0 An Overview of Basic Trends in Food Economy

Of course, this study is about reforming rural rationing in Bangladesh. But even this can not do without a perspective about some basic trends in Bangladesh's food economy. Isolated below are three macro aspects of the food economy, viz. foodgrain availability, offtake-to-availability ratio and ration-to-market price ratios. The insertion of this body of results has two key advantages. First, the reader has a sense of perspective about 1986/87- the year to which all our primary data relate--both in itself and also in relation to the years in the recent past. Second, the price ratios specially creates a clear picture about the rapid de-subsidisation of the deliveries effected through PFDS' moretisedchannels.

Table 2.0 in the this chapter presents foodgrain availability,[1] offtake-availability ratio and ration price ratios for 1972/73-1986/87. Following conclusions suggest themselves. First, food availabiity situation does not elicit any optimism. While aggregate foodrain availability has gorwn at a trend rate of 2.95% per year, population growth has virtually totally neutralised it Consequently, per capita foodgrain availability has grown at a trend rate of insignificant magnitude (0.23%). An attempt has ben made to explain per capita availability of foodgrain. Availability is closely related to apparent consumption. Theory states that the latter should depend upon income (INC), price(P), urbanisation, taste evolution, etc. The latter class of variables may be subsummed into,say, a trend variable (T). But availability can also be construed in terms of what the food system manages to supply. In a short-run analysis, when the price effect a supply may be ignored (on the ground of the price

response not being substantial), supply of foodgrain may be deemed to depend on domestic production (PROD), PFDS offtake (OFFTAKE) and trend (T). This time, the trend variable would, of course, likely correspond to some other underlying variable, e.g. the diffusion of the high-yielding-variety technique of cultiivation. We may now look at the results (everywhere in this report, we follow the convention of presenting t-statistics beneath estimated regression co-efficients).

$$AVAIL = 389.9 + \underset{(.33)}{0.157}\ P - \underset{(.82)}{0.098}\ INC + \underset{(1.88)}{3.78}\ T^{**} \qquad R^2 = 0.39$$

$$AVAIL = 16.9 + \underset{(5.1)}{0.883}\ PROD^{*} + \underset{(6.0)}{1.194}\ OFFTAKE^{*} + \underset{(0.6)}{0.216}\ T \qquad R^2 = 0.86$$

AVAIL equals aggregate availability of rice and wheat

Quite clealry, the data have not established a demand relationship in the first equation presented, both signs of price and income variables being perverse, given the low levels of per capita income in Bangladesh. In the demand-type relationship only the trend variable is significant, thereby highlighting the significance of perhaps supply-side variables of a kind that can be subsummed within a trend.

The supply-side explanation of availability is much more adequate, as is to be expected. While PROD and OFFTAKE are highly significant, we note that the trend variable is insignificant. The two sets of results imply that the modest gain in per capita availability has been driven by supply-side forces. Of course, that is consistent with a tepid growth performance of Bangladesh economy during this period.

The second result to note is that aggregate offtake-to-availability ratio has ranged between 9 and 13% in the seven years since 1980/81. Offtake ratio is lower in the 1980s (12.4%) overall than in the 1970s (15.2%). At first sight, one feel tempted to assign some credit on this account to those managing food policies in Bangladesh. More sober reflection suggests, however, that in two out of three years of 1984/85 through 1986/87, Bangladesh had had to supplement official food aid by food imports on commercial terms, thereby drawing down international reserves and by contracting short term trade credit at high rates. This serves to point up the exposed character of Bangladesh's food economy to external shocks which, under certain circumstances, may well divert resources from long-term development to meeting consumption needs, albeit of the most vulnerable sections of her population. This is the unwelcome aspcet of Bangladesh's food situation in the mid-1980's, after about two decades of intensive efforts to raise foodgrain production.

Last three columns of the table show that eversince 1975/76-1977/78, de-subsidisation in monetised channels of PFDS had began in earnest. By about early 1980's food subsidies had to a very large degree been reduced. Unit budgetary subsidies were ranging between 8-16% during most of the years in 1980s. What effect, it may well be wondered, did such de-subsidisation had on estimated per capita consumption of foodgrain in rural areas of Bangladesh? Table 2.1 presents the answer. We shall draw attention to only one aspect of the information in the table. Average intake in either 1981/82 or 1983/84 is found to be higher than in 1973/74 for each of the bottom two quartiles. What is more, the gain is more, proportionately, for the first quartile than for the second quartile. Together, these results imply that consumption of the poorer half of the rural population in Bangladesh has not been

adversely affected by the very considerable de-subsidisation between early 1970's and the early 1980's.

The final aspect of the food economy of Bangladesh focussed here is the evolution of the structure of the PFDS. One may at this stage examine the information in Table 2.2. Several comments are in order here. First, of various monetised channels (SR.MR, EP, OP,LE, FM, OMS, MO) virtually every one has suffered varying degrees of decline during the period under review, except EP and OMS. The deepest cut has been imposed on SR. The second deepest cut has been imposed on MR. OP has fluctuated a good deal, with an overall tendency of a lowering of its percentage share. OMS' share has been steadily rising. This is emblematic of the increased emphasis being laid on the price stabilisation, as opposed to rationing, goals of public foodgrain interventions. The relief-cum-developmental channel of the PFDS--FFWP--have enjoyed a conspicuous increase in its relative share. This is,to our minds, one of the hopeful aspects of the PFDS evolution. The grains distributed under it are successfully targetted at ablebodied poor men and women who can do manual work. Several independent evaluations have creditted FFWP with having reached the poorest of rural households (Chowdhury, 1984). VGD--another relief channel--with a small but growing relative share--represents direct nutritional intervention upon food availability of female-headed households. This, too, is typically successful in reaching a large number of very poor people in the countryside, (although for every person so assisted, there are anything between four to five other who are eligible for such support but in fact received none).

Between them, the rising volume of FFWP and VGD activities, especially under FFWP, have resulted in a very slight increase in

what has been called rural-proneness of the PFDS in more recent years (Chowdhury, 1986). There has also been an improvement in the infrastructure of implementation surrounding the creation and maintenance of rural infrastructure through FFWP. A developmental channel of the PFDS, such as the FFWP, will likely frequently vie for resources with more elitist monetised channels, like SR, EP, OP, even MR. Resources committed for distribution under these channels have an opportunity cost in terms of cost-effective infrastructure building possible through FFWP. Deliberations on reforming MR can not afford to lose sight of this conflict between monetised and developmental channels of PFDS.

2.1 Eligibility Criteria

Modified Rationing was first introduced as a separate conduit of the PFDS in 1949. Its stated objective has always been to direct some food subsidies outside of the Statutory Rationing (SR) areas or beyond any of the groups of the population assigned priority in rationing.[2] Distribution Priority Lists (DPLs) are prepared on the basis of household taxes for local government institutions. Households are then put into four categories. Quantities of subsidised rice and wheat, determined within the overall allotment to MR, are distributed to households belonging to the two botton categories. Pourashavas (municipalities) and the Union Parishads (UPs) are the two local-government types that classify urban and rural households for this purpose. In 1983/84, it was estimated that about 31% of MR foodgrains were distributed in the pourashavas in Bangladesh. The remaining 69% was distributed through the medium of UPs (Chowdhury et al. 1986, Table A9.1). In rural MR, unions are the relevant territorial unit. All households within a union are classified by the chowkidari tax paid per year, into four categories. (In 1984/5, households paying no chowkidari taxes were in 'A' category; those

paying less than Tk.10 were in 'B' category; those paying between Tk.11 and Tk.20 annually were in 'C' category; those paying in excess of Tk.20 were in category 'D'.)[3] While households in 'A' and 'B' are eligible to receive rice and wheat ration, those in C and D categories are eligible to receive sugar, edible oil and other non-cereal items when stock levels permitted.

The commodity issue prices are the same for MR as for SR. The maximum quota per card for MR is the same as that in SR. In reality, however, entitlements within MR are de jure concepts: as the MR quantities are predicated on availability, the Director General, Food, is frequently required to make such distribution commensurate, among other things, with the stocks remaining with the government after the requirements of priority categories are met. As it happens, the distribution in the MR takes place at well under maximum allowable rates (Chowdhury et al., Ch.9). Besides, the frequency of distribution, too, is much lower than the stipulated fortnightly interval.

To cover changing modalities of MR is, in part, to treat its changing constituency. A full description of the changing MR constituency has been done elsewhere (Chowdhury, 1986, Appendix A and B). It may be noted in passing that, by about 1978, a large number of beneficiaries,with employment or social characteristics such as gave them public importance or populousness,had themselves reclassified out of MR and into priority beneficiary status. The poorest and the least cohesive among rural and urban population presently constitute the de jure province of MR in Bangladesh. What actually happens in MR in terms of its impact on the food situation of the rural poor is of interest because of this fact.

We need to understand the MR activities in terms of the offtake, and of lifting by households, of foodgrains allotted to

MR. Especially, it appears to us, we need to model the offtake decision in MR. This is so because the offtake decision is germinal in determining how MR activities relate to wider economic variables, e.g. wage levels, prices, average incomes, etc. An effort has been made in the following pages to present models of the determination of offtake under MR in Bangladesh.

2.2 Allocation Process of Foodgrains:

2.2.1 A Model of the Determination of MR Offtake

The objective in the following paragraphs is to give a sense of what determines offtake in MR. Because the lifted proportion of MR allotment has a degree of variance, it is proper to treat offtake as a decision variable. In the parlance in vogue at the DOF, while allotment under SR, OP, EP, LE and FM tend to be relatively fixed, and represent more or less predetermined demand, allotments under (OMS and) MR are not pre-determined: they tend to vary.As a result,offtake,to a larger extent than for allotments for allotments, in these two channels tend to be influenced by evolving circumstances in a year. This makes a case for exploring causalities of MR offtake. Such an exercise is not just of an academic interest. Some of its results will be used later in forging a reformed MR.

The exercise is attempted both at an economy-wide, as also at a district level. The rationale for disaggregation into district-level is provided by the following: country-wide offtake for a year is a sum of variable monthly offtakes, and that the former for a month is a sum of offtake for individual districts. The underlying decision agents in the model are, for the most part, the MR dealers. The territorial unit in this model is the district. (We shall be watching out if district results lend support to economy-wide results.)

Before proceeding any further,one may anticipate a question: what is the real merit of any explanation of MR offtake if only a small part of it is known to reach households in 'A' and 'B' categories on the DPL in villages ? A related question may be: shouldn't the really interesting thing be to understand how the quantities actually lifted by households in MR are in fact determined ?

We would of course concede that only a very small part of the MR quantities allotted to MR dealers or lifted by them actually reach households as intended (Chowdhury, 1988; see below in this Report). Nonetheless, one could properly argue that the existence, even pervasiveness, of leakage does not rule out the case for relationships between MR offtake and other variables, rationing and otherwise. Offtakes have certain correspondence with MR allotments. The latter are closely related to priority distribution. For that reason, it is proper to explore relationships between offtake in MR and other ration channels. This is on the supply side. On the demand side, decisions regarding offtake properly respond, among other things, to certain perceptions of price relatives, average incomes, etc. Besides, no one has yet shown or can conclusively argue that incremental ratio between offtake on the one hand and distribution among the poor in the rural and urban areas is virtually zero. So long as there is a monotonic positive relationship between offtake and direct distribution among poor households, there will be a case for explaining the former in terms of price, income and other supplyside variables.

Explaining MR foodgrain Offtake:
the Framework of Analysis

Normalised MR offtake (i.e. offtake per MR cards) is the dependent variable in this exercise. The variable is evaluated in two versions, namely current-value and first difference versions. Normalisation avoids the problem of heteroscedasticity of the residuals.

The following independent variables have been used. The ratio between retail ration price and retail market price is used as a price relative (P). (The ratio used is for rice, the retail market price referring to coarse rice. This was dictated in that retail market prices for wheat for various years were hard to come by. Also, there did not exist a self-evident procedure for deriving a synthetic price relative involving both rice and wheat). Percentage of offtake in four priority channels (i.e. EP, SR,OP and LE) is included and abbreviated as ESOL. Quantities distributed through Flour Mills (FM) were not included in that variable, in that it differs quite clearly from the other four in its retail distribution modalities. Percentage of quantity distributed in VGFP is used as a third independent variable. Percentage of quantity distributed in FFWP, CD and TR (FFWP) is used as a fourth independent variable. Each of these independent offtake variables are entered in the equation in percentages <u>relative</u> to total quantities distributed in PFDS, other than MR. They have, thereby, been normalised. The other independent variables are average real agricultural output (AGINC),time trend (T), and real wages (W). AGINC is real gross agricultural value added divided by estimated rural population W, refers to real wages of farm workers in Bangladesh. (Both have been taken out of

Bangladesh Bureau of Statistics, Statistical Yearbook of Bangladesh).

What signs do we expect on these independent variables ? The expected sings are indicated below after the abbreviations: P(-); ESOL(-); VGFP(+); H(-); W(+); T(+). The reasons for expecting these signs are now briefly touched upon.

The higher the ratio between the ration to market price, the lower the attraction of the ration and consequently the lower is likely to be the incentives for the MR dealers to lift allotment.[4] The higher is the combined quantity distributed under the priority channels represented by ESOL relative to total PFDS, the lower is the availability of stocks for allocation to MR, and hence we expect the negative sign.

We have no a priori expectations about signs of VGFP and FFWP variables. It is likelier that the coefficients on these variables will have negative signs, for the following reason. Both FFWP and VGD are targetted supplies of food calibrated according to geographical distress factors. The higher the degree of need, regionally perceived, the higher the ratio of FFWP and VGD in district PFDS. These two are new channels whose activities have been informed by the analytical perceptions of the government and the donors that in these targetted channels, the degree of food distress should primarily matter. In the MR, on the other hand, overall food is usually so constrained that districts which receive priority on FFWP and VGD are marked down in terms of normalised MR allotment. It is also possible that the representative depressed district is more populous, and consequently has larger number of cards at issue. Because of constricted availability of foodgrain in MR, this results in a negative relationship between FFWP and VGD and normalised MR

offtake. Presumably, a district level relationship may hold up well at an aggregate level, too.

Harvest prices and real wages are both posited as reflecting short-term changes in buying power,especially of the marginal/ small producers and of labour-selling households. These variables are posited to have either positive or negative coefficients on offtake. Positive when buying power weakens the cash constraint of the ration beneficiaries, thereby arousing interest in their ration entitlements (which may raise offtake); negative if the buying power deflects demand into the open rice market, away from the ration itself.

Finally, the time trend is posited to take either a positive or negative sign.

Interpretations of the results

Time-series, economy-wide regression coefficients are presented in Table 2.3. The degree of explanation is quite adequate. As expected, both the price relative and ESOL variables have significant negative coefficients. Real wages and percentage share of VGD have significant negative coefficients. These results give credence to the position that MR dealers take account of these variables while determining the quantity to be lifted, annually.

In Table 2.3, the significant coefficients simplest to rationalise are ESOL, VGD and the price relative. The higher the offtake in ESOL relative to total PFDS,the lower the availability of foodgrain for distribution in MR on a per card basis. The higher the share of foodgrain allotted to VGD, the lower is offtake per card in MR. The ESOL coefficient proves that quantities distributed in MR per card is predicated on

availability after priority demands are met. The VGD coefficient shows that augmenting the importance of directly targeted nutritional intervention to reach the very poor reduces MR offtake per card. The price coefficient is negative as expected. Its significance underlines that traders' offtake decisions, in part, take their cues from relative ration-to-market prices. When subsidy is larger, offtake per card increases. Because the MR dealers' handling margins are exogenously determined and changed infrequently, it may be posited that the increased MR activities in such a case is largely motivated by the gains to be made through leakage.[5] It also is plausible to argue that the closer is the ration price to the market price, the lower the desirability of lifting ration. That may, in part, be responsible for the negative price-relative coefficient.

One significant negative coefficient, namely that on W, is less easy to rationalise, even though it is certainly not implausible. In an annual model, the coefficient captures a short term effect. If real wages on farm rise, the demand for foodgrain shifts. Because of the high value attached by the poor to the consumption of rice (to which access is relatively deprived), they substitute preferred diet for inferior grain whenever there is a short-run improvement in their buying ability. Ration foodgrains are, even at the countryside, not the most preferred grains. Hence whenever increases in real wages provide a reprieve, howsoever transitory, in terms of buying power, a substitution of preferred for less-preferred grains takes place. The MR dealers, who form part of the same dietary culture, are also apparently aware of this preference pattern. Hence, ceteris paribus, they decide to lift less in years with higher real wages than in years when real wages fall.

Overall, the results suggest that MR offtake can plausibly be modeled as a decision variable. There are administrative

compulsions which influence the offtake activity through determining allotments (e.g. ESOL). On the other hand, there are economic forces that influence offtake (e.g. the price relative, real wages, agricultural income per capita). Finally, trend factors also come into the play in determining offtake activity in MR.

Determinants of MR Offtake at District Level

Two considerations have motivated the insertion in this report of a district-level model of determination of MR offtake activity in 1986/87. First, because distress-level food-stress rankings are now officially available, some merit was seen to exist in probing relationships between those ranks and normalised district MR offtake, controlling for other possible explanatory variables. Second, it was imperative to see whether all or some of the variables turned up as significant influences on MR offtake in the time-series, economy-wide exercise are decisive at district levels, too. In the ultimate analysis, some degree of generality, if any, is desirable to be established for the regression results presented earlier.

Before proceeding any further, one variable should be introduced. This is the district distress factor (DF). The Ministry of Relief and Rehabilitation (MRR) assigns grades to each upazila in terms of the extent of food stress. The factors themselves range between 1.0 and 1.5. These scores are underlain by facts or perceptions about the upazila: whether it is a food deficit,low-wage,flood-prone area,and the like.(Of necessity, the scores are somewhat crude measures,but they are, nevertheless, the best available district-level indicator of food stress.) "New districts" have been ranked by averaging ranks for upazilas therein. The MRR/WFP calibrates upazila level allocation of FFWP

foodgrains according to this scale of regional distress. We have used this in the following exercise.

Like in the economy-wide exercise before, MR district offtake is standardised by the number of MR cards for 1986/87. A second dependent variable is MR offtake standardised by district MR allotment. The independent variables are i) normalised offtake in the two priority channels, viz. EP and OP; ii) normalised offtake in FFWP and VGFP; and iii) the DF. Normalisation was effected by expressing volume of offtake in each channel as a percentage of total district offtake.

Both versions of the dependent variable deals with heteroscedasticity of the residuals. We have retained both versions because we believe that, at least as far as one particular independent variable was concerned (namely distress factor), the coefficient sign could differ between the alternative versions. We believe also that the relationship of the DF to the composite of MR activity is better interpreted when results turned up by both versions are put in perspective.

The results of Table 2.4 deserve a mention. First, there is a trade-off between the offtake in MR as against that in either EP/OP, FFWP or VGD, regardless of whichever version of the dependent variable we use. The regression coefficients are everywhere negative as far as these three variables are concerned. For both individual components of MR,as also in the aggregate, lifting-to-allotment ratio in MR is significantly negatively affected by the relative share of VGD and FFWP. MR offtake per card, on the other hand, is significantly negatively affected by FFWP and priority-channel offtake. One important implication of these results is that there is no <u>overlap</u> (in the sense of congregation) between the MR, and the other three

channels examined above. (This evidence is of relevance to further discussion of overlap in Chapter 5).

Second, the sign of the DF variable differs as between the versions. Although neither coefficients are significant, one can still plausibly say something on the basis of the signs. Lifting-to-allotment ratio everywhere has a positive sign on the DF, thereby implying that increased distress level perhaps result in higher offtake ratio. Such a causation would be consistent if, for example, high-distress districts have a higher-than-average ratio between ration-to-market prices.[6] The other version of the dependent variable, however, returns a negative coefficient on the DF. The higher the distress factor, the lower is the quantity lifted per card. This effect really reflects the context that the quantity allotted per card in the first instance is lower in the high-distress districts than in others. This is clearly shown in Table 2.7. Even though the price regime leads to a higher lifting ratio, that performance can not neutralise the disadvantage associated with lower allotment per card.

In conclusion, the results are consistent with the thesis that MR offtake is not only determined by what is not given away for priority ration beneficiaries, but also by the extent of subsidy. Within the limits set by what grains are available, the role of the manipulation of MR foodgrains for profits through arbitrage in the open market, highlighted by the time-series results above, has again been suggested in this analysis, albeit indirectly through the coefficient on the DF. With the MR in its conventional format being scarcely visible in its effects on the food balances of eligible households (Chowdhury,1988; see below), rationing activities have become assimilated into the logic of private, profit-seeking, market arbitrage of grains that normally should be targeted for poor consumers. It is conceded that the

price-inference underlining this judgement, at least at the district level, is indirect. But it is quite consistent with evidence marshalled later in this chapter showing the insignificance of MR as a source of food subsidy for the poor. And, of course, the time-series regression makes such a case on the basis of direct evidence.

2.3.1 Suitability of the Eligibility Criteria

Three questions arise at this stage. First, how significant are the benefits of eligibility of support under MR, especially for the poorest households ? Second, how significant are the private costs of the enforcement of eligibility, or, in other words, are there transaction costs of enforcing eligibility. Third, whatever may be the net gains (i.e. benefits minus costs), how suitable, anyway, are the eligibility criteria themselves vis-a-vis the objectives of MR ? One's perception of the importance of the suitability of the eligibility as a policy category will likely be informed by the quantitative significance of the net gains from the eligibility to support.

Benefits arise from rationing because of the subsidies. Their extent is determined by the magnitude of the latter. However, costs arise too, in taking advantage of those benefits. Benefits of MR for the households that receive any foodgrains have fallen to significantly lower levels more recently owing to the pursuit of the policy of subsidy cut-back. MR subsidy, as a percentage of market price, is estimated at no more than 10% for rice and 5% for wheat in 1985/86. As presented below, of the sample households who got any foodgrain out of MR during 1986/87, average quantity of foodgrain (rice and wheat) is estimated at about 2.9 kgs per year per capita. This accounts for less than 2% of the foodgrain consumed by these households. If compared with overall cereal consumption, (i.e. both foodgrain and

non-foodgrain), rural rationing represents an even lower proportion of household consumption. Because only 5.9% of the 185 households (out of 289 on the sample) in 'A' and 'B' categories received any foodgrain under MR, MR's contribution to overall food consumption by eligible classes of households is of the extent to .11% (.059 x .02 = 0.0011).Another way to present the evidence is to recognise that subsidies have an income effect. The estimated income effect due to rationing is significantly less than even 1% of total expenditure, as far as the few sample households that got any foodgrain during 1986/87 are concerned. The point, of course, is that the prevailing exposure to MR's benefits of eligible households is very small indeed. It has been argued elsewhere that leakage out of MR offtake and into market stream at the level of MR dealers amounted to more than one-half (Chowdhury, 1988). To put it mildly, elected officials of local government institutions look upon and use MR foodgrain as political seed capital. Consequently, there is little accountability within the MR system. Unless, therefore, the system can be very significantly improved, eligibility remains a matter of theoretical interest only.

On the other hand, costs of enforcing eligibility on the system have risen. When households do not have cards, costs arise owing to the necessity of obtaining a piece of paper from the member concerned of the UP, providing the basis of possible one-time issue of foodgrain by the dealer. Costs may arise, too, because MR dealers may not maintain fixed and known hours of business. The necessity, on either count, may chalk up direct costs (e.g.travel). The indirect costs, meaning incomes foregone, may be higher, in the sense that rural real wages and female labour force participation have both apparently been rising of late.[7] That is, opportunity costs of search and waiting have risen as conditions of keen rush for cash-yielding work and a mild labour scarcity have began to prevail in the countryside.

Together, the evidence on the benefits and costs of MR food subsidies suggests that the importance of eligibility as an economic right has been reduced to a state of insignificance.

With this background, we may turn to the question of how suitable are the eligibility conditions themselves. The idea of these conditions is to screen off the poorest of rural people as proper beneficiaries of food support, in other words, to sort out households on the basis of their means. Because an actual means test will be prohibitively expensive to carry out, the government envisaged using information on the liability to pay taxes to locally elected institutions as a basis for sorting households out in the DPL. As stated before, the tax is known as Chowkidari Tax. The issue at hand is; are the tax cut-off marks for 'A' and 'B' category such as to sort out the poorest 50-60% of the households in the unions?[8]

In answering this question, one may like to examine the bivariate distribution of rural households in terms of land ownership and household categorisation for Chowkidari Tax purposes. If an overwhelming majority of 'A' category households is found among the lowest land-ownership bracket (of, say, 0-0.50 acre class), the categorisation would appear to be a fair one.

By similar reasoning, if a very significant proportion of 'B' category households are found with upto 1 acre of owned land, this categorisation would appear reasonable. At this stage, one may look at the information in Table 2.5. The table arrays 25282 households enumerated by the research team in the eight unions with regard to land ownership and chowkidari tax paid in 1986/87. The numbers and percentages in the table are aggregates over all eight unions. The following conclusions may be drawn from it.

First, out of 6160 households paying no CT, 5745 (or 93.3%) are in the lowest land class. Another 4% own between 0.51 and 1 acre.[9] Therefore, 93% of 'A' class households (who are 24.3% of all enumerated households) are in the smallest land class. Similarly, of 11249 (44.5% of the total) in the 'B' category, 58% are in the smallest landed class, while another 19.8% is in the 0.51 through 1.00 acre class. That is, 78% of 'B' category households own upto one acre of land. Put yet another way, of 13725 households (54.2% of the total) that own upto 0.50 acres--and may be termed functionally landless--12240 (or 89%) are in either A or B category. Of 3441 households with between 0.51 and 1.0 acres, 2470 (or 71.8%) are in either A or B categories. These numbers strongly seem to suggest that the DPL seems on the whole to be doing an adequate job of correctly sorting out the households with functional landlessness or marginal landholding. This is in spite of the datedness of the DPL. This fact must be noted with some emphasis.It is especially significant that an instrument which is compiled relatively inexpensively should do an adequate job on this count.

The datedness of the DPL is of course not without its limitations. Note, for example, that no fewer than 1485 households with upto 0.5 acres of land are shown in 'C' and 'D' categories and therefore deemed to be ineligible to receive support in MR. Possibly, these households were properly classified in 'C'and 'D' categories when, several years ago, the DPL was put together. Eversince, as households may have nucleated, their mean land dwindled, presumably squeezing their taxability. This is due to the datedness of the DPL.

Of course, one of the intriguing aspects of the information in the table is that 1727 households have 2.51 or more acres of land and still are categorised in "A" and "B" categories. It is because of this sort of mis-classification that must bring

discredit to the DPL. Such misclassification is about 8% of the enumerated households. But, even so, it cannot be gainsaid that the DPL does an adequate job.

These results of the household-level census are confirmed by those returned by the household surveys, presented in Table 2.6. This table presents the bivariate distribution of sample households by land ownership class and by payment of CT. The following conclusions may be reached from the table. First, 54 out of 62 (or 87%) households that are assessed as in 'A' category have upto 0.25 acres only. Sixty one out of 123 households (or 50%) who are assessed in 'B' category have upto 0.25 acres, while another 14% have between 0.26 and 0.50 acres of land. All told, 136 out of 185 households (74%) assessed as in 'A' or 'B' categories are in the two smallest land classes. In other words, about three-fourths of 'A' and 'B' category households are either landless or functionally landless. Another 17% are marginal farm households with between 0.51 and 1.49 acres. Farm households with this order of own land are regarded in the literature as food-deficit. Therefore, about 91% of 'A' and 'B' category household are properly found to occupy the bottom of the landownership pyramid in Bangladesh. Only 9% of the households have been inappropriately classed in 'B' category: because they have 1.50 acres or more. Ninety one percent of the households are quite properly classified. If small farmers (those with between 1.50 and 2.49 acres) are allowed to be proper beneficiaries of food subsidies, de jure, the percentage of misclassification will fall to about 5%.

This evidence permits a categorical statement, viz. that the DPLs are quite adequate instruments when its objective is to sort out the poorest households in the country-side. This is all the more creditworthy due to the informal and cost-effective way in which the DPL is put together (see below).[10]

The basic data in putting together the DPL, involving the economic status of households, are provided by the chowkidars themselves. (Chowkidari Tax proceeds are defrayed in paying the chowkidars their salaries.) Ownership of land is used by them as one of the focal variables.Chowkidars have to prove their trustworthiness to the villagers if they have to guard their homes at night--which is what they are paid to do. Because of this, they are often knowledgeable about matters that would otherwise be dealt with confidentially, (for example, that the household head has bought some more land with remittance from a migrant son working abroad.) In villages, official land records are rarely current. And yet the chowkidar's informal information network ensures that his grasp of improving landed status of villagers in his constituency will remain reasonably current.

The data supplied by the chowkidar become the staple of the DPL. Of course, the legal authority is invested in it only after the UP adopts a resolution to the effect that the DPL prepared by its functionaries reflects true state of affairs in the union in terms of the classification.

Of course, using chowkidars as a knowledgeable source of information about net worth of households is quite a cost-effective method. The only real handicap of the method is the possibility that chowkidars' personal biases, if any, may interfere with the categorisation of households that were better-off but have since fallen on hard times (whether due to land erosion, or land fragmentation etc.). The chowkidar may perceive a personal stake in continuing to categorise in 'C' and 'D' class households which were once better off than presently. This may be because chowkidars' salaries are fetched from CT proceeds, in which they may have a material stake. Where the member(s)

concerned of the UP have left things pretty much upto the chowkidars, such misperceptions may well creep into the DPL itself. It is gratifying, of course, that the percentage of such mis-classification is quite small. Operationally, we should say that, despite its datedness, the DPL is performing adequately. What was earlier on ascribed to the datedness of the DPL could in fact have been due to chowkidars' misperceptions.

The next question is: can the DPL be made a lot better? The answer to this question is certainly in the affirmative. But this would be a matter of the mobilisation of resources. Updating of the DPL qua an accurate roster of the households in an union in terms of taxability must be an expensive matter. This is bound to be a task of national proportion. A methodology has to be formulated and implemented for making the DPL more accurate. (This report has presented a brief methodology in Ch. 6.) Resources have to be found in order to inject greater consciousness into the minds of households with MR cards with a view to creating internal assertiveness about rights of cardholders. In other ways, also, steps must be taken to nudge the system to a more accountable stance. We shall revert to each of these themes subsequently, in Ch.6. Suffice it to say here that DPL does appear to be doing an adequate job of sorting out the households with no or very small amount of land in its A and B categories. Earlier critique of the DPL (e.g. in Chowdhury et al, 1986) on the ground of datedness, while factually quite correct, understated the usefulness of the informal information network at the disposal of the UPs in the country. The major implication of all this of course is that the system of MR has problems not so much with whether the eligibility criteria are suitable (they are), or with the controllability of proper classification of hoseholds (there is controllability) as with whether, and to what extent, the dealers can be prevailed upon to lift MR grains and distribute them in the intended locality to

eligible households. This moot issue is closely connected, however, with the gains for the dealers from the handling charge per quintal. The latter is universally regarded as unremunerative. There is no easy solution to the problem of unremunerative handling commission--except through lowering issue prices relative to market prices.

The other problem in MR appears to lie in that MR food resources are perceived within local government institutions as representating seed fund for other ends. The distribution exercise is itself largely dominated by considerations of other loyalties. It has been found impossible to confirm this conclusion statistically, for example with the data from the sample households. But our field enquiries, permitting exchanges of perceptions with elected officials of UPs, strongly suggest that a marriage of convenience exists between the functionaries of the UP and the dealers. And it is widely suspected that MR resources are used by officials in the UPs as seed money for securing electoral or similar goals. As we shall soon see, this all takes place against a background of conspicuous urban bias and rural deprivation accorded by the prevailing modalities in MR.

2.3.2 Urban Bias of MR

In order to assess how significantly MR augments food availability of eligible households in the unions, one needs some sense of the scale of MR distribution activity in the districts of which the unions each forms a part. District-level allotment gives an idea of the availability of foodgrain in MR that is de jure meant for distribution in a given area. As against this, district-level lifting provides the limits within which the levels of support for the households in fact are determined. Data on household-level impact of MR would not mean much unless they

are put against the background of district-level scope of activity in MR.Pronouncements on the quantitative significance or otherwise of MR's impact on food balances of rural, or for that matter pourashava, households can only be made vis-a-vis what was happening in the relevant district overall. In the following paragraphs are set out available evidence about the scope of district-level MR activity.[11]

In an earlier report, quantity allotted per MR cards in the districts was presented. (The data was organised for districts along a divisional line.) It was found there that in 1983/84, quantity per card for the rural area was 21.3 kgs. for the country as a whole, while for the pourashavas, the corresponding figure was 115.7 kgs.--four times higher. Likewise, in 1984/85, average quantity in the rural areas was 24.1 kgs. as against 108.5 kgs.in the pourashavas of the country. That account brought out into the open for the first time the sharp urban bias even of the modified rationing: four times or more in foodgrain was allotted favouring the average urban rationing unit than for the corresponding rural unit.

The presentation here attempts to further one's understanding in the matter. Three questions are answered here: a) how do per-card allotments differ as between the villages and the pourashavas when districts are ranked by (food) distress factors. Second,how do quantities of MR foodgrains lifted (out of allotments) per ration card in the UPs and pourashavas compare with each other ? Third, of the respective quantities of allotment, how much, proportionately, are lifted for distribution in the UPs, the pourashavas and by the chakkiwalas. In answering all these questions, districts have been ranked by distress factor.[12] The idea of course is to get a sense of any possible relationship between distress factor and the character of various

components of MR activity, as also of the percentages lifted out of allotment.

The figures in Table 2.7 shows, once again, the urban bias of MR allotment. For all districts, while allotment per card is 83.6 kgs. for the pourashavas, the matched quantity for the UPs is 18.2 kgs. only. For every kilo allotted for the countryside, 4.6 kgs. are allotted for the urban poor in pourashavas. As against de jure maximum quantity to be distributed of 104 kgs. per year per card, while the pourashava allotment is found to be 80.4%, the matched figure for UPs is found to be 17.5% only.

Quantity of MR foodgrain lifted per card for UPs is estimated at 11.8 kgs. only, as against 65.4 kg for the pourashavas. The ratio between the UPs and pourashavas in terms of lifting is 1:5.54 at the expense of the former (as against 1:4.6 on the basis of allotment). This happens because a higher proportion of allotment is lifted in the pourashavas' MR than in rural MR--64.6% as against 80%. Lifting percentage is higher in pourashavas because the handling commission structure is not adequately graduated with respect to mileage. Minimum handling commission is fixed at Tk. 16 per quintal when the point of distribution is upto 8 km from the issuing LSD. Additional commission related to longer haulage is inadequate in relation to prevailing transportation costs. This creates disincentives against lifting when distribution in the intended locality involves longer haulage of grains. Pourashava dealers are less handicapped by the haulage disincentive. The higher lifting-to-allotment ratio of pourashava MR dealers than shown either for UP MR dealers or chakkiwalas is more properly seen to be a result of more attractive handling charges than more vigorous entrepreneurial performance by the dealers at hand.

The view, expressed in an earlier account (Chowdhury 1988), that MR is the step-child of rationing in Bangladesh, and rural MR the step-child of MR, remains as apt in 1986/87 as in 1984/85.

The higher the average distress level of the group of districts in both tables,the lower is the MR allotment (and lifting, too) per card, as far as the rural MR is concerned. No such generalisation is possible for pourashava MR. The upshot is that greater inequities mark the system of rural than pourashava MR. This is something that needs redressal in a reformed MR.

It has been seen elsewhere that, in a district level regression involving per card MR lifting, distress factor coefficient is always negative (though not significant whenever priority-channel offtake was in the equation). This was the case for rural as well as pourashava MR. This result obtains also for total MR. The means that, against a clear imperative for reprioritising the "entitlements" of vulnerable districts in MR allotment,a deprioritisation in fact appears to be the case. The average or better districts--where every upazila is either average or better--are allotted larger quantities of foodgrains per card than districts with clearly greater food-risk levels.

In other words, the system of MR is flawed by a conspicuous urban bias. This bias comes through at every level of food-distress, measured district-wide. Moreover, more distress-prone districts count for less than better-off districts. That means, at a further remove, that many scores of unions, located within very vulnerable upazilas, remain the subject of double-discrimination. MR remains unfocussed, both in terms of degree as also the location, of poverty in Bangladesh, even though this remains the only monetised PFDS channel with the poor in the country as its de jure constituency. Consequently, territorial

reorientation of MR so as to make it focus poor households and poor regions will find a lot of visibility in our later work.

2.4 Incidence of MR on Household Budget

This section is devoted to discussion on:

i) the consumption patterns of the households in the study areas;

ii) incidence of MR on household food balance; and

iii) the incremental budget importance of wheat (and atta) of consumers with varying levels of incomes.

First, we discuss the consumption patterns obtaining in the study areas. The analysis is based on information gathered through an intensive sample survey of 289 households randomly selected from a population of 25282 families living in the 8 unions under study.

Before proceeding any further, a few conceptual preliminaries are worthy of note. First, throughout this study, total expenditure is used as a proxy for income. Although we have had information on household income as well, we felt that the expenditure data were more reliable and more relevant for our purpose. Expenditure includes all food and non-food consumption, expenditure on household durables, festivals and repairs and maintenance. A detailed break up of the total per capita expenditure is given in Appendix-1 of this chapter.

Second, while presenting the information in terms of income levels, use is made of quartile values of expenditure per standardised consumption unit. In standardising, an adulut woman has been deemed equivalent to 0.65 times one adult male; and a child upto 10 years of age to 0.4 times one adult man. The

standardisation of the household as a consumption unit is intended to control for heterogenous age and sex composition of the sample households.

Third, while the main presentation of the results has been attempted in terms of the income quartiles, a few tables, focussing on the various survey areas themselves, have been included, too.

2.4.1 Consumption Patterns of the Households

Table 2.9 presents per capita expenditure by the eight unions. Reference period is 1986/87. Two facts may be noted at the very outset. Union-level income per capita in all except one union, viz. Parsuram in the district of Noakhali, is estimated at below Tk.3820, which is taken in the study to pass for poverty income in 1986/87 prices.(This poverty line is arrived by applying an inflation allowance to the poverty line estimated for 1985/86 by Rahman and Haque). Representative household in all union may therefore be deemed to live in poverty. Only Parsuram, an union located on Comilla-Chittagong road a market town of some importance, returns an average income above poverty line. For all unions, average income is estimated at Tk.3740. It is worth stressing therefore a significant proportion of the households in this sample live in poverty. Consequently, this is an ideal sample on which to examine issues of the role of MR in supplementing food availability of those in poverty.

Our data are reasonably comparable with some other rural household survey results in terms of relative expenditure shares of few major heads. It can be seen from table 2.9 that expenditure on food constitutes about 78% of the total expenditure and that on clothes about 6.5%. Expenditure on fuel, cosmetics and really husking together represents about 9.62% of the total per

capita expenditure. But expenditure on fuel alone represents 6.5% of the expenditure (see Appendix-1). Thus, our findings fairly compare with those returned by Osmani and Deb (1986) on the basis of a survey carried out in eleven villages drawn from throughout Bangladesh in 1979/80.(S.R. Osmani and N.C. Deb (1986): "Demand for Products of Rural Industries" in Bangladesh: Selected Issues in Employment and Development, ILO/ARTEP, New Delhi, December 1986).

Out of 78% expenditure on food, 33.18% is represented by rice, and 5.16% by wheat and atta. Other food represents about 39.46% of the total expenditure. Appendix-1 sets out the constituents of other foods which include expenditure on flour derived food such as bread, buns, biscuits, etc. and also fish, meat, dairy products, vegetable, edible oils, sugar, gur, spices and others.

The conditional budget shares of rice, wheat and other food items are presented in table 2.10. The respective shares are 42.65%, 6.63% and 50.72%. These two tables reflect only the area-wise distribution and the itemswise distribution of expenditure. They do not reflect, however, the consumption pattern with respect to income levels. In order to reflect this, the quartile distribution of total expenditure and its major components is reported in table 2.11 and the detailed quartile distribution is reported in Appendix-2 of this chapter.

The average budget shares of households at different quartiles are presented in table 2.12. As would be expected, the first two quartiles, i.e. the bottom half of the distribution devote a higher percentage of their income spent to rice and wheat. The two top quartiles, i.e. better-off households have a higher percentage of their income spent on other than staple food i.e. rice and wheat. A similar pattern is observed involving

expenditures on clothes and household durables, education and medical care. These findings are in conformity with the well-known Engel's curve. It is interesting to note, however, that absolute expenditure per capita on all items increased along with the quartiles, except atta. The higher the quartiles, the higher was the absolute expenditure per capita on all items except atta.

The evidence presented so far seems to suggest that the data generated by Beacon sample surveys are basically sensible, and reliable with respect to their conformity with some of the most basic axioms of consumption behaviour. This means that not only do we have a sample where poverty is as extensive as is typical of rural Bangladesh, but also that we have a body of sensible data.

A further break up of the tables shows (see Appendix-2) that consumption of rice from own production increases and that from market, ration and other sources decreases as one goes up along with the quartiles. In contrast, the consumption of wheat from own production does not increase as income goes up. This may be because many of the households have not produced wheat at all. Hence consumption and production decisions are independent of each other. Requirements of wheat or atta are predominantly met through market or ration transactions, mainly the former. Testimony to this can be found in that absolute expenditure per capita is the highest on market purchase of atta of all types of wheat/atta purchases.

So far we have examined average budget shares for various quartiles. But it is clearly necessary to go beyond monetary budget shares. Where major cereals are differently priced but have, weight for weight, different food value, physical-quantity consumption-shares of roughly homogeneous cereals and

cereal-derivatives can provide more honed insights than can value shares about consumption propensities. This necessitated an examination of the distribution of per capita consumption, physically measured, for various quartiles.

The quartile distribution of physical quantities is presented in Table 2.13 followed by the presentation of relative shares of various cereals in table 2.14. The tables show that rice represents over 80% of the cereals consumed and wheat represents the rest. Consumption per capita of cereal decreases from 150.1 kgs. for the Ist quartile down to 148 kgs. for the 2nd quartile, increases to 171 kgs. for the third quartile, down to 164 kgs. in the 4th quartile. Cereal consumption is substituted by non-cereal consumption like meat, dairy and fish in the 4th quartile, hence per capita cereal consumption decreases although expenditure on other food items increases (see table 2.14 and also Appendix-2, table A-2).

Discussion of consumption patterns can hardly be completed without on express consideration of income elasticities of demand for commodities in the consumer's basket and of their respective marginal budget shares. From the foregoing, it has become clear that with variations in income, budget shares of various commodities may vary. Income elasticities measure in quantitative terms the extent to which demand for a commodity will change due to certain change in income. Income elasticity is equal to the ratio of percentage change in demand to that in income. Marginal budget share on the other hand, measures how much of an incremental income will be spent on the commodity in question and is given by the ratio of change in demand to that in income. This measure is important because this gives an insight as regards which particular commodity will be high in demand and which particular commodity will fall in demand with the changes in per capita income, whether either positively on negatively. The

marginal budget share (also known as marginal propensity to consume) is interlinked with the concept of income elasticity and one can be derived from the other. In the present study, however, the two measures were estimated by independently regressing the per capita consumption expenditure with respect to a particular commodity on the total per capita expenditure. The income elasticities were estimated by a double log functional form whereas the marginal budget shares were estimated by linear regression. The estimated income elasticities are presented in Appendix-3 of this chapter and marginal budget shares are presented in table 2.15.

It is evident from the table that commodities with income elasticities of more than one have larger marginal budget shares than average budget shares. This indicates that with the rise in per capita income, the average budget shares of these commodities will increase. On the other hand, for commodities with income elasticities of less than one or negative elasticities, average shares will fall as incomes rise. Some commodities have negative elasticities in the higher quartiles and positive elasticities in the lower quartiles. This has been reflected in the negative marginal shares in the relatively higher quartiles as compared to positive marginal shares in the lower quartiles. Atta is such a commodity.

Note also that, while marginal budget share of wheat consumed out of own-production or bought through rationing is virtually zero, the matched share of atta bought from the market is higher for households in the two lower quartiles. Atta's marginal share falls through increasing quartiles. Also, for the bottom 25% of the households, atta from the market accounts for more than 22% of all cereals consumed. This falls to 16% for the second quartile households. There is no doubt that atta bought from the market is pretty visible on food balances of the poorer

half of this sample. Atta can self-target the relatively poorer section of the community in a framework of more selective intervention.

Our field survey instrument querried households as to consumption of maize. Only a handful of households indicated that they had taken some maize but the quantity was so small that it could not be represented in the budget share table. Consequently, it is not worth while bothering about its elasticity and marginal budget share. It does not necessarily mean, however that maize may not be used as a self-targeting ration good. We shall return to this in section 2.6.

2.4.2 Incidence of MR on Household Balance sheet

Appendices 1 and 2 provide information on the incidence of MR on household food balances. The data are presented, respectively, in terms of the survey areas as also the quartiles. It is evident that per capita expenditure on foodgrain obtained ex-ration constitutes a very small percentage of overall per capita expenditure on food. As expected, the incidence diminishes as one goes up with the quartiles. As can be seen from table 2.16, per capita expenditure on ration goods for the first three quartiles averages at Tk.13.09 only which is little over one third of one percent as against Tk.8.69 for the fourth quartile, which is less than one fifth of one per cent. It is also evident from the table that out of the total expenditure on ration, rice represents over 44%, wheat over 46% and sugar about 9.5%.

It should be noted here that the budget share of ration goods small as it is, represents its share in the overall per capita expenditure averaged out of food and non-food expenditure and also aggregating across the expenditure of ration recipients and non-recipients. Table 2.17 presents per capita expenditure on

ration goods as percentage of expenditure on cereals. The same pattern is observed as in the case of table 2.16 except that the percentage share of ration goods is now a little bit higher (although less than one percent in all the quartiles) than before. On further inspection, the per capita expenditure on ration goods constituted only 1.42% of the average per capita expenditure of those households who have received ration. Only 11 out of 289 households includ d in the sample survey stated that they were MR recipients. 185 out of 289 households on the sample are in 'A' and 'B' categories.

Because a substantial proportion of the total households in rural Bangladesh live in poverty, the incidence of MR receipt is too small to have any favourable impact on its levels. Table 2.18 represents area-wise distribution of poverty level households together with the percentage of MR cardholding households and the budget share of ration goods in the eight unions' under study. Households having less than half an acre of land constitutes more than 54% of the total households in the areas under study. They possess only 5% of the total land available in these areas. This is suggestive of the extent of their poverty.Only 17.61% of the households have ration cards. The number of households to receive ration grains each time an allotment is received depends on the size of the allotment and on the attractiveness of ration.The latter in turn depends on the relative price of the ration goods. Our field survey reveals that ration purchases accounted for no more than one fifth of one percent of the per capital expenditure aggregated over 8 unions. Damurhuda had the highest budget share on ration, which is nearly (but less than) one percent. Next comes Ranigonj where the budget share was nearly double the average, yet less than one half of one percent of the per capita expenditure.

As discussed earlier, incidence of rice from MR as well as from market sources decreases as income rises. It can be seen from table 2.15 that the marginal budget share of MR rice is negative. As income goes up, the consumer buys less of MR rice. However, MR rice may not necessarily be an inferior commodity since there is every reason to believe that conditions of deficient supply and unmet demand had prevailed. This view is reinforced by the fact that total demand for rice was higher per capita in the higher quartiles of income. The case of atta was different. Demand for atta was lower in the higher quartiles of income. This was true irrespective of whether the atta was from self production, or from MR. Atta is clearly a poor man's food. The relatively higher marginal budget share in the first three quartiles compared to that in the 4th quartile also convey the same message. In the cases of wheat from self production and market sources, the marginal budget shares in the 4th quartiles were negative and those in the Ist 3 quartiles were positive. These statistics clearly suggest that wheat (atta) can play a better role in self targetting the poor compared to rice.

2.4.3 Incidence of Distribution Qua wheat and Qua Atta.

Discussion in the previous sub-sections concerned the incidence of MR wheat and atta combined. References to wheat and atta were made interchangeably. Following is an attempt to present them separately. Table 2.19 shows the division of wheat and atta in percentages by unions. The wheat distributed through the chakkis represents about 14% of the combined atta and wheat distribution through MR. Atta distributed through MR dealers constitutes only 4% and wheat (grain) distributed through MR dealers represents 82%. Considering the distribution through MR dealership alone, atta represents about 5% of the atta and wheat combined. Wheat represents 95% of that quantity.

As stated earlier, the chakki system is, by and large, a market oriented system. The major aim is to ensure availability of cereals at a stable price, particularly to the poorer section of the community. During 1986/87 out of the total distribution through chakkis, 29% was through ration cards and slips and 71% was through retailers and direct sale to the public.

2.4.4 Retail Prices Via-a-Vis Ration price of Atta

As stated earlier, the bulk of the MR wheat is distributed in the form of grain. Chakkis, however, received wheat qua grain, crush them and distribute atta. The issue price of wheat for the MR dealers and chakki owners are the same.

According to the Food Directorate, Government of Bangladesh, the issue price of MR rice was Tk.7.75 per kg. and that of wheat was Tk.5.15 per kg. in June 1986. The issue price of atta was fixed at Tk.6.55. As discussed in greater detail in Chapter 4, MR wheat constitutes only 2% of total wheat milled by an average chakki. Thus, the issue price of atta is of little consequence on prevailing market price. The availability of atta will, however, have a good deal of influence on price. The same logic should work in the case of rice as well.

Table 2.20 shows the absolute and relative differences of ration as opposed to market prices of atta over 12 months of the fiscal year 1986/87. It is evident that the variance was rather small compared to instability of prices in Bangladesh.

Existence of chakkis in the locality might have contributed to this relative stability in price by ensuring smooth and larger supply.

2.5 Assessment of MR as a Rationing channel

The main objective of MR is to bring a degree of benefit of food subsidies to the poor in the community. The volume of distribution of foodgrains in MR has been patently inadequate given the massiveness of rural poverty. Earlier in this chapter, it has been argued that the reduced subsidy as well as reduced allocation under (MR) did not have any adverse impact on the average caloric intake of the households in the 1st and 2nd quartiles. This section aims at looking at some additional quantitative aspects of MR which, it is hoped, will focus as an poverty instrument.

Table 2.21 presents the number of ration card holding families in the eight unions, together with average quantity issued per ration card.[13]

Lifting of MR wheat per household with MR cards works out to be 1.646 maunds and that of rice 1.200 maunds. Thus MR wheat and rice per capita in the recipient households would be 10.24 kgs. and 7.46 kgs. respectively, if all card-holding households were served. Note that this is a hypothetical distribution based on the amount lifted by MR dealers in the UPs under study. Actual distribution through MR dealers, as revealed by our field surveys, amounts to 15.03 kgs. of rice and 13.05 kgs. of wheat per capita. But the recipient households were only 3.8% of the sample. Generalizing this information for the entire households in the study areas, the number of ration recipients comes out to be 5764 assuming an average family size of 6. Thus the total wheat distributed @ 13.05 kgs. per capita is 1755 maunds and that of rice distributed @ 15.03 kgs. works out to be 2321 maunds.

The gap between the amount lifted and the amount distributed can be seen from table 2.22. Wheat distributed under MR constitutes only 21.6% of the amount lifted and rice distributed through the same channel constitutes 38.6% of the amount lifted. Nearly four-fifths of the wheat and three-fifths of the rice allotted to the MR dealers appears to have leaked out to the market supplies.

In an assessment of MR as a rationing channel one should compare the results reported in tables 2.20 and 2.21. The former shows the quantity of ration (rice and wheat combined) that one card holder could get provided all lifting was distributed and the latter shows what actually an average card holder would have received if all the cardholders were treated equally. This is not to suggest that all the cardholders must be treated equally but the point is that if all who are entitled were not accommodated, those who have been accommodated should have received much more than they did. Amount received per card is only one third of what could have been received, given the actual allotment.

It is important to note that the number of ration card issued does not seem to have any bearing on the prevailing state of poverty in an area. (Here, land ownership will be utilised to proxy the state of poverty in a micro region, like an union.) A glance at table 2.18 will make this clear. Alipur, where landless (defined as having less than 0.50 acre land) households represent 51.5% of the total, has ration card facilities to only 1.69%, whereas Madanpura where landless households constitute a lower percentage (43.5%) of the total has ration card facilities to 54.12% of its population. Similar contrasts can be observed while looking at Askikati and Damurhada, Raniganj and Amarpur etc. A look at the last column of Table 2.20 also suggests that the allocation did not correspond to poverty levels, if these are to

be approximated by land ownership levels. This lack of correspondance reinforces the view that a sizeable proportion of MR foodgrain find its way to open market. This also explains in part, why the number of MR dealers are increasing despite a reduced allocation per dealer and despite an officially negative rate of return in the MR dealership (see chapter 3).

The number of households with ration card, again, is a very small fraction of the eligible households. This is another aspects of MR, which reduces the force of the imperative of its continuation. It is recognised of course that due to overall scarcity of resources all who are eligible to be included in a category (say, 'A') could not be included. So the number of ration cards issued remained far short of the number that should have been issued. For instance, the number of households who do not pay any chowkidari tax in the area under study constitutes about 24.36% of the total households. This means, according to the present criteria of issuing ration cards, there should have been 6'60 'A' category ration card households. But our census of the area reveals that the number of all category of ration cards including 'A', 'B', 'C' and 'D' was 4451 only. If we define eligibility in terms of landlessness, the situation would look worse. Total households in all the 8 unions under study, who have less than 0.50 acre of land number 13725 or 54.29% of the total. Households with ration cards represent only 17.61% of the total.

Mere holding of a ration card does not mean much, since rations are available very infreqnently and in small quantities (see below in this chapter). Only 11 out of 289 households on our sample received any foodgrain under MR in 1986/87. This is only about 9% of the households in 'A' and 'B' categories on the sample. The evidence on the leakage has already been commented upon.

Hence, in view of all of the above evidence, the assessment of MR can only end on a rather pessimistic note, with regard to the merits of the continuation in its conventional format. There it is not sufficiently targetted.

Under these circumstances a natural response is to explore possible ways of better targetting of the poor in the MR. To that end, we look first at the experience gathered in India in this regard. We shall then turn to the selection of suitable commodities which are likely to increase the selection of poors in the MR.

2.6 Towards Better Targetting of the Poor in MR

2.6.1 Experience of Neighbouring countries

(A) Indian Experience

Certain aspects of public food intervention by Tamil Nadu, India, shows how food resources can be properly targetted. The programme was restricted to children aged 6-36 months. Two main features of the project are:

i) Child beneficiaries would be identified and monitored through a monitoring system set up in the project villages; and

ii) Food supplementation would continue only so long as the child requires it to achieve nutritional recovery.

The project not only provides food supplements but also imparts nutrition education. The annual financial cost per beneficiary has been estimated at US $ 12.03 only, which projected nationally would give about one-third of one per-cent of GNP in the case of India.

The Tamil Nadu project of India is, like the VGD of Bangladesh, a directly targetted instrument. India also practises a combination of geographical and self-targetting by the poor in public food distribution. This happens when ration shops in poor neighbourhoods sell essential com-modities at fair prices to the poor. Foodgrains supplied in these shops are sometiones of lower quality.

Of course, the cost of procurement and fair-price-shop programme can become high, especially in years with poor food supply situation. The gap between procurement price and the fair price widens in those years and the government has to bear increased import cost (Chowdhury et al, 1986, Ch.12).

Fair price shops introduced in Bangladesh during early 1970 did not work, due to large budget subsidies then prevailing. The idea itself has of course been mooted again (Chowdhury et al, 1986). Perhaps, such a policy should only focus on rice and wheat, and leave out of account other essential commodities. These shops of course cannot be an alternative to the MR dealership. Our problem here is not only to make a geographical targetting but also to properly screen the eligibles off. Hence targetting would require either selection of commodities which will self target the poor or find out some alternative to the present ration card and DPL systems. The former will be discussed in sub-section

2.6.2 and the latter in part (B) of this sub-section which follows immediately. The efficacy of DPL will be further discussed in chapter 6.

2.6.2 Selection of Self Targetting Commodities

Self-targetting is one of the basic tenets of food intervention that seek high benefit-cost ratios. The idea is to pick commodities that have low or negative income elasticities and a larger budget shares for the poor. The problem in many countries is to identify commodities with this characteristic. Often, a commodity that meets the above specification is a new food, and may require change of food habit, even of the poor. Fortunately, the poor consumers are also price-responsive, too. A suitable change in relative price can bring about the desired change in food intake. It may not be a change of food habit altogether. But it may still be enough of a change in terms of food intake pattern for economic reasons.In Bangladesh, commodity targetting has been in practice since long. Wheat was distributed along with rice in a subsidized food basket in MR as well as in other channels under PFDS. Wheat made inroads into food-mix of lower-income groups relatively more rapidly than for higher-income groups. At the present time, households in the first or second quartiles of income distribution return higher budget share of wheat/atta than do other households (section 2.4.1). Income elasticities and marginal budget shares of wheat in the top quartiles are negative. This indicates that an equal increase in income in all quartiles, will induce households in the lower income quartiles to consume more wheat (atta) and the higher income quartiles to consume less of it. Thus, wheat, or what can come to the same thing, atta can be considered to self-select the poor.

Maize is another possibility, although we have very little quantitative knowledge as regards price and income elasticities of demand for maize in Bangladesh. Consumption of maize was conspicuous by its absence on the sample. In any case, we have results of the attitude survey at hand, and this we present in the following sub-section.

2.6.3 Survey Results About Reception of Maize

Sample survey as regard reception of maize was under taken in three tiers - at the MR dealers level, at the chakki owners level and at the household level. Results obtained in the first two tiers have been elaborated in chapters three and four respectively. Suffice it say here that a large majority of both chakki owners and MR dealers believe that the introduction of maize at 10% subsidy will largely be accepted.

Results of the household survey are presented in Table 2.23. It is evident that a majority of the households appear willing to switchover from atta to appropriately-milled maize if the latter is subsidised at, say,10% relative to the former. To many households the commodity is yet unkown and there may be misgivings as regards food value and health hazard of this unknown commodity. A publicity cdmpaign highlighting the comparability of maize and wheat in terms of food value may enhance interest in maize to even higher levels.[14] For the time being maize can, on a pilot basis, be blended with wheat in some appropriate proportion and the task of grinding maize and blending with wheat may be entrusted with the chakki-owners. However, we remain concerned that this aspect of our results is less rooted in hard-headed analysis of facts about revealed behaviour of households--the ultimate decisionmakers in this context--than others. Clearly, maize will be favourably received by the poorest of household.

Presumably, its attraction to the others can be raised if appropriate milling, packaging and pricing rules can be practised. In this study, it has not been possible to go into all that. An indepth study of the technical feasibility of introducing maize into the ration-stream in Bangladesh could well embrace each of the three above rubrics in the context of maize's introduction.

2.7 Optimum Lot Size and Frequency of Distribution

Both of these are in principle important issues in the context of subsidised food distribution for the poor. For them, the margin between access to adequate food and starvation is so delicately poised that every effort has to be made to fine tune operational and logistical aspects of rationing soasto suit their intimate circumstances. If operating realities of rationing and the compulsions of the poor are not adequately dove-tailed, food and other resources meant for them may still not be taken advantage of by them- because, while the food was available de jure, the rules of the game were such as would count them out most of the time. The general point of course is that modalities of assisting the poor should be meshed into their absorptive capacity.[15] By that capaicity we mean how much of foodgrain poor households can ideally buy at any given time. How much will intimately be related to the ability of households to carry foodgrain stocks.

There is always a fine tension between the gains of large-volume purchase on the one hand, and, at any rate for the poor, the ability to carry stocks. It is advantageous for the dealers, if they wanted, to be able to carry a large consignment to an union so as to lower unit handling change. But the MR dealers also want to secure rapid turnover of their capital. Their

preference is for selling what quantity they have on one hat day. However, poverty of many prospective customers make small-lot buying the preference for many households who manage to receive any foodgrain at all.[16] In sum, therefore, small-lots and very infrequent distribution (at MR prices) are among the enduring but very questionable features of MR.

There is no way to improve frequency of distribution without raising the overall level of MR allotment. The larger the quantity available for distribution in MR, the more frequently can the dealers be allotted grains who, in their turn, will distribute more to the households. But we are inclined to argue against such a course of action--on grounds of the relative demerits of general and conventional rationing which is not sufficiently targetted. Generalised food subsidies are also of dubious merit because a good deal of the foodgrain mediated thereby hit the open market which, in turn, allocate grain in a liassez faire fashion. The access of the very poor to such food resources can be guaranteed less through augmenting availability in the market in general than through direct food intervention (e.g. VGD) or into developmental channels (e.g. FFWP). If a tradeoff is seen to exist between augmenting activity level in MR versus FFWP, we would pick up the latter as possessing the balance of the advantage.

Nor is it advisable to insist that MR dealers must not sell to card- or slip-holders anything below, say, a 10-kgs. threshold. Such an insistent would not be in keeping with the poverty of means of the poor. Such an insistence would also be very costly to enforce.

2.8 Suitable Distribution Centre

Localization of distribution centre is important since this will have impact on the real cost of getting ration. Recipients will consider not only the nominal price differentials of ration goods but also the time lost in procuring such goods uncertainties attached to each trip to the distribution centre. Thus they will prefer the distribution centres in such places as to minimize the risk of uncertainties and time involved. Most often, the ration recipients are day labourers. The opportunity cost of procuring ration goods will be valued in terms of income foregone therein. Unless the benefit received from the ration goods is larger than the benefit lost, they may not decide to lift ration. The chance of not lifting ration will further increase if beneficiary is not sure of getting ration on arrival to the centre. If the probability of getting and not getting ration is 50-50% he will put more weight to the probability of not getting. This is because of the well-known law of diminishing marginal utility. According to this law, the utility derived from a unit of income which is intra-marginal is larger than the unit which is extra-marginal.As such,a household who has an equal chance of gaining, say Tk.10.00 if he gets ration and losing Tk.10.00 in terms of the opportunity cost of time if he fails to receive any ration, then he will weigh more to the chance of loss and decide not to go for ration.

Under the above circumstances the most suitable distribution centres will be ones which the households visit in the course of their ordinary business of life and not specially for the purpose of lifting ration. Obviously, such places are the market places in the countryside. It is thus, not necessary to have such centres at an equicentral place in the unions. Or, it is not necessarily meritorious that distribution centres are located at

equidistant places. This is because such equi-central or equi-distant centre will not ensure that the intended beneficiaries must turn up.

As gathered from our survey team, almost all the ration shops in the study area were situated in market places. In other words, the MR distribution system is unlikely to be improved on this particular count.

Table 2.0

Foodgrain Availability, Offtake-to-Availability Ratio and Unit Budgetary Subsidy in Bangladesh PFDS

Year	Foodgrain availability (000 long tons)			Per capita (lb/yr.) per day			Offtake-availability ratio(%)			Ration-to-market prices, wholesale level (%)	
	Rice	Total Wheat	Total	Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1972/3-1974/5	10018	1887	11905	.806	.152	.958	2.03	15.13	17.17	35.2	35.8
1975/6-1977/8	11275	1265	12540	.846	.095	.941	5.10	8.10	13.13	66.8	78.9
1978/9-1979/80	11688	1968	13656	.828	.139	.967	4.55	10.75	15.16	62.2	81.4
1980/81	11963	1783	13746	.817	.122	.939	3.7	7.2	10.9	83.1	97.5
1981/82	12546	2121	14667	.840	.142	.982	4.8	8.5	13.3	73.4	86.4
1982/83	13020	2362	15382	.854	.165	1.009	3.9	9.2	13.1	93.5	82.8
1983/84	13193	2475	15668	.846	.159	1.005	3.2	9.8	13.0	79.9	83.4
1984/85	13335	3242	16577	.833	.203	1.036	2.4	13.1	15.5	80.0	85.5
1985/86	13878	2154	16032	.820	.126	.946	2.4	7.6	10.0	95.4	95.1
1986/87	±4112	2702	16314	.814	.156	.970	2.9	9.9	13.0	83.2	89.0

Source: Figures between 1972/73 through 1984/85 have been adapted from Chowdhury 1986 (Tables C.2,I, and A.7. For 1985/86 and 1986/87, figures are from Food Situation Reports, 1985/86 and 1986/87, issued by Food Planning and Monitoring Unit in the Food Ministry, Govt. of Bangladesh.

Table 2.1

Per Capita Intake of Rice and Wheat by Expenditure Quartiles, Bangladesh, (various years)

(Kgs.)

Expenditure Quartiles	1973/74	1981/82	1983/84	1985/86
Ist	134.5	140.2	141.4	165.7
2nd	150.6	153.5	154.4	172.8
3rd	194.1	171.9	169.2	161.8
4th	278.5	274.9	274.3	239.0

Note: Throughout this study, expenditure has been used as a surrogate for permanent income at household level. The estimates include rice flour and wheat flour, as well as grains. The methodology used by the BBS - the agency that conducts Household Expenditure Survey (HES) -- is reasonably comparable upto 1983/84. After that, the methodology for 1985/86 HES is quite different. The results for that year should not be compared with those for earlier years.

Source: BBS, Reports of the Household Explenditure Survey for 1973/74, 1981/82, 1983/84 and 1985/86.

Table 2.2

Evolution of the Structure of the PFDS, 1972/73-1986/87

Years (1)	SR (2)	EP (3)	OP (4)	LE (5)	FM (6)	OMS/MO (7)	MR (8)	FFW/CD (9)	VGF/GR/ Relief (10)	Others (11)	Total PFDS activity (000 long tons) (12)
1972/3-1974/5	23.43	4.36	10.04	4.68	6.59	.07	43.95	0	6.89	0	2034
1975/6-1977/8	23.65	6.30	16.05	4.73	10.93	1.51	22.54	10.69	3.60	0	1658
1978/9-1980/1	21.96	4.70	22.62	3.73	8.54	3.20	15.36	17.24	2.63	0	1898
1981/2-1983/4	14.81	4.99	18.67	3.15	6.21	5.90	20.40	19.90	4.44	1.52	2022
1984/5-1986/7	10.02	6.51	15.43	2.29	5.97	7.76	13.09	26.74	11.01	1.36	2097

Source: Data obtained from Food Division, GOB.

Table 2.3

Determinants of MR Offtake per Card, 1972/73 through 1986/87

	Current-value version		First difference version
(1)	(2)	(3)	(4)
Constant	0.33	0.35	0.0008
AGINC	-2.49 (1.1)	-2.77 (1.3)	-1.18 (.7)
P	-0.0007** (2.3)	-0.0001** (2.5)	-.0004** (2.0)
ESOL	-0.25* (6.2)	-0.25* (6.2)	-0.23* (5.8)
FFWP	+0.07 (.9)	+0.004 (..)	-0.07 (.70)
VGFP	-0.17*** (1.8)	+.003 (1.0)	-.03 (.3)
T		+205.9** (2.1)	
W	-0.00008** (3.1)	-0.19*** (1.9)	-.00007 (1.1)
R^2	0.94	0.95	0.86

Notes: 't' -statistics in parentheses.
* denotes significance at 99% level.
** denotes significance at 95% level and
***denotes significance at 90% level.

Source: Data collected from Food Division, Dhaka.

Table 2.4

Explaining MR Offtake at the District-level, 1986/87

	Regressand					
	Rural MR		Urban MR		All MR	
(1)	Offtake per card (2)	% of offtake (3)	Offtake per card (4)	% of offtake (5)	Offtake per card (6)	% of offtake (7)
Constant	37.6	0.69	452.9	0.89	49.7	0.77
DF	-3.88	+4.45	-63.6	+0.25	-1.67	+0.47
	(..)	(1.4)	(0.5)	(.8)	(..)	(..)
%VGFP	-23.4	-1.28**	-151.8	-1.13**	-36.6	-1.34*
	(.7)	(1.9)	(0.6)	(1.5)	(1.1)	(2.1)
%FFW	-24.6	-0.81**	-337.4*	-0.93**	-39.0**	-0.82*
	(1.1)	(1.8)	(2.2)	(1.9)	(1.7)	(1.96)
%EOP	-18.4	-0.53	-487.2*	-0.47	-32.8**	-0.50
	(.8)	(1.1)	(2.6)	(0.8)	(1.3)	(1.1)
R^2	0.05	0.10	0.16	0.17	0.09	0.13

Notes: Figures in parentheses are t-statistics.
* represent significance at 97.5% level.
** represent significance at 95% level.
Number of degrees of freedom was 44.
The symbol .. means t-statistics less than 0.5.

Source: Data generated from offices of District Food Controllers in 49 new districts of Bangladesh.

Table 2.5

Distribution of Households by land Ownership and Chowkidari Tax Payment in Eight Unions

Land Ownership (in acre) (1)	Chowkidari Tax paid by Households (Taka) 0 (2)	1-3 (3)	4-5 (4)	6-10 (5)	11-20 (6)	21 and above (7)	1-10 (8)	All (9)
0.0 - 0.50	5745	1003	2951	2541	1064	421	6495	13725 (54.2)
0.51 - 1.00	248	114	794	1314	565	406	2222	3441 (13.6)
1.01 - 2.50	129	47	496	1440	1147	826	1983	4085 (16.1)
2.51 - 5.00	26	15	29	457	881	1144	501	2552 (10.1)
5.01 - 7.50	7	-	3	25	162	473	28	670 (2.6)
7.51 and above	5	-	4	16	97	689	20	881 (3.2)
All	6160 (24.3)	1179 (4.6)	4277 (16.9)	5793 (22.9)	3916 (15.5)	3959 (15.6)	11249 (44.5)	25282

Notes: Figures in parentheses under the last row indicate column percentages relative to total number of households in our census. Figures in parentheses under numbers in the last column are row percentages.

Source: Data from Census of households in eight unions.

Table 2.6

Distribution of Sample Households by Chowkidari Tax and Land Ownership Classes

Land ownership	Land ownership class								
	0.25	0.26-0.50	0.51-0.99	1.00-1.49	1.50-2.49	2.50-4.99	5.00-7.49	7.50+	All
Chowkidari Tax (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Zero	54 (42.5)	4 (15.4)	2 (7.7)	2 (7.7)	-	-	-	-	62 (21.5)
1-10	61 (48.0)	17 (65.4)	19 (73.1)	9 (34.6)	12 (40.0)	4 (13.3)	1 (6.7)	-	123 (42.6)
11-20	10 (7.9)	1 (3.8)	3 (11.5)	5 (19.2)	11 (36.7)	8 (26.7)	2 (13.3)	-	40 (13.8)
20+	2 (1.6)	4 (15.4)	2 (7.7)	10 (38.5)	7 (23.3)	18 (60.0)	12 (80.0)	9 (100)	64 (22.1)
All	127 (100)	26 (100)	26 (100)	26 (100)	30 (100)	30 (100)	15 (100)	9 (100)	289 (100)

Table 2.7

MR Activity per Card in the Districts, 1986/87

District distress factors	No. of dis-tricts	Qty.allotted in MR (000 kgs.) (rice and wheat)		No.of ration cards in MR (000s)		Allotment of wheat through dealers per card (kg.)	
		UP	Poura-shava	Union Pari-shad	Poura-shavas	Union Pari-shad	Paura-shavas
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.00	19	68188	15702	3009.7	169.9	22.6	92.4
1.01-1.10	9	41169	6849	2082.5	131	19.8	52.3
1.11-1.50	22	91868.5	25738	5948.1	289	15.4	89.0
All districts	50	201226	48289	11040	589.9	18.2	83.6

Note: Upazila level distress ranks are averaged to yield district averaged distress rank.
Districts are in rank level 1.00.

Source: Data supplied by offices of the District Controllers of Food in fifty new districts.

Table 2.8

Quantity Lifted per Card in MR, and % of Allotment Lifted in MR, 1986/87

District distress factor	Qty.lifted in		Lifting of MR ration per card		% of allotment lifted MR dealers		Atta chakkis
	UPs	Poura-shavas	UPs	Poura-shavas	UPs	Poura-shavas	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.00	43872	11578	14.6	68.1	64.3	73.7	70.1
1.01-1.10	26348	5754	12.6	43.9	64.0	84.0	74.3
1.11-1.50	59703	21230	10.0	73.5	65.0	82.5	75.4
All districts	129923	38562	11.8	65.4	64.6	80.0	73.3

Source: Data supplied by offices of DC, Food in fifty districts of Bangladesh.

Table 2.9

Distribution of Per Capita Expenditure by UPs

UPs	H/H size	EXPENDITURE ON Rice	Wheat	Other foods	H/H durables	Clothes	Education	Medical	Fuel,soap, cosmetics husking,	Others	Total Per capita Expenditure
1.Raniganj	5.19	1152.02	262.33	1191.76	70.51	207.51	33.93	36.97	402.05	74.13	3431.21
2.Amar pur	5.24	1176.97	58.42	1567.03	93.94	250.13	45.42	65.45	418.37	80.91	3766.64
3.Parsuram	6.34	1422.73	91.45	1731.98	85.28	278.52	61.02	76.59	317.31	64.98	4129.86
4.Ashikati	6.09	1284.19	156.47	1561.50	77.47	257.44	30.39	118.64	228.97	27.72	3742.79
5.Damurhuda	6.97	1153.77	330.77	1417.74	51.26	196.29	19.35	46.44	373.88	46.95	3636.45
6.Madanpura	7.06	1428.40	75.09	1408.83	75.33	262.38	76.46	59.60	280.89	51.73	3718.71
7.Rudrakar	5.68	1140.78	268.43	1412.05	76.40	252.32	8.63	29.23	507.39	42.31	3737.54
8.Ali pur	6.03	1114.87	299.54	1491.14	81.95	233.35	30.37	33.39	386.44	45.49	3716.74
Mean	6.07	1241 (33.18)	193 (5.16)	1476 (39.47)	76	243 (6.50)	39	59	360 (9.62)	53	3740.00
S.D.	0.67	123	104	137	12	27	21	27	81	16	178

Note: Figures in parentheses represent expendisture percentage shares for selected commodity groups.

Source: Beacon Field Survey 1987/88.

Table 2.10

Conditional Budget Shares of Expenditure on Major Food Items

	Total Budget Share (%)	Conditional Budget Share(%)
Rice	33.18	42.65
Wheat	5.16	6.63
Other food	39.46	50.72
Total	77.80	100.00

Source: Table 2.9.

Table 2.11

Quartile Distribution of Per Capita Expenditure with Major Components

(In Tk.)

	Per capita exp.	Expenditure on Rice	Expenditure on Wheat	Expenditure on other food	Expenditure on Domestics Durables	Expenditure on clothes	Expenditure on edn. & medical	Expenditure on Fuel, soap cosmetics & husking	Expenditure on others
Ist Quartile	3031	1082	282	1118	38	166	44	271	30
2nd Quartile	3129	1192	181	1004	51	200	75	377	49
3rd Quartile	4200	1349	160	1870	74	270	100	312	65
4th Quartile	4672	1355	142	1950	146	344	180	485	70
All (Weighted Average)	3740**	1241	193	1476	76	243	98	360	53

*Source: Beacon Field Survey 1987/88.

** Sum total of the columns may not add up to the total per capita expenditure due to rounding up errors.

Table 2.12

Quartile Distribution of Per Capita Expenditure with Budget Shares of Major Components

Quartile	Total No. of Persons/ H.H*	Total expenditure per capita (Tk.)	Average budget share rice	Average budget share wheat atta	Average share of other food	Domestic Durables	Average Budget share of	Average share Edn. & medical	Fuel, soap cosmetics & Match (%)	Others (%)	Total Budget Share ***
Ist quartile	456/72	3031	35.70	9.30	36.89	1.25	5.47	1.45	8.94	.99	100
2nd quartile	434/72	3129	38.10	5.78	32.08	1.63	6.39	2.40	12.05	1.56	100
3rd quartile	434/73	4200	32.10	3.81	44.52	1.76	6.43	2.38	7.43	1.55	100
4th quartile	417/72	4672	29.00	3.00	41.74	3.12	7.36	3.85	10.38	1.50	100
All quartile	1741/289	3740	33.18	5.16	39.47	2.03	6.50	2.62	9.60	1.42	100
Bottom 75%		3446	35.31	6.35	37.81						
Top 25%		4672	29.00	3.00	41.74						

** H.H. = Household.

*** There may be some rounding up errors.

* **Source: Beacon Field Survey 1987/88.**

Table 2.13

Physical Quantities Consumed Per Capita Per Year (kg.)

Quartile	Self produced Rice	Market Rice	Ration Rice	Rice from Other sources	Self prdoduced wheat	Wheat from Market	Ration Wheat	FFW Wheat	VGFP wheat	Flour, Fried rice, suzi, etc.	Maize	Yearly total H/H cereal consumption per capita (in kg.)
Ist quartile	33.7	74.0	0.49	0.32	4.7	34.3	0.37	1.23	0	2.97	0	150.10
2nd quartile	52.67	64.5	0.72	0.8	4.0	20.5	1.2	0.18	1.31	2.53	0	148.49
3rd quartile	86.57	54.8	0.41	0.31	2.8	18.6	1.24	0.39	0.85	4.90	0	170.93
4th quartile	101.21	40.85	0	0	4.3	10.31	.78	0.15	0.52	5.99	0	164.06
All quartile	68.02	58.80	0.41	0.35	3.96	21.12	0.89	0.5	0.66	4.08	0	158.78

Note: These figures are per capita (weighted average) consumption of cereal and cereal derivative per year in kgs.

Table 2.14

Percentage Share of Various Cereal and Cereal Derivatives Relative to Total Physical Cereal + Cereal Derivatives as the Base

Quartile	Self produced Rice	Market Rice	Ration Rice	Rice from Other sources	Self prdoduced wheat	Wheat from Market	Ration Wheat	FFW Wheat	VGFP Wheat	Flour, Fried rice Suzi etc.	Maize
Ist quartile	0.2245	0.4930	0.0033	0.0021	0.03131	0.2285	0.0025	0.0082	0	0.0197	0
2nd quartile	0.3547	0.4344	0.0048	0.0054	0.0269	0.1380	0.0081	0.0012	0.0088	0.0170	0
3rd quartile	0.5064	0.3206	0.0024	0.0018	0.0163	0.1088	0.0073	0.0023	0.0050	0.0287	0
4th quartile	0.6169	0.2499	0	0	0.0262	0.0628	0.0047	0.0009	0.0032	0.0365	0
All quartile	0.4283	0.3703	0.0026	0.0022	0.0249	0.1330	0.0056	0.0031	0.0042	0.0256	0

Table 2.15
Estimated Marginal Budget Shares

Commodities	Q_1-Q_3	Q_4	Q_1-Q_4
1. Self Produced Rice	0.185	.191	0.227
2. Market Purchased Rice	0.027	.070	-0.563
3. Ration Rice	-0.000	0	-0.001
4. Rice obtained from other sources	-0.004	0	-0.003
5. Self produced wheat (atta)	0.007	0.003	0.001
6. Wheat/Atta from market	0.820	0.048	-0.042
7. MR wheat	0.310	0.000	0.001
8. FFW wheat	-0.2[illegible]0	0.002	-0.001
9. VGFP wheat	-0.008	-0.005	-0.003
10. Flour, Fried rice, Suzi, Semai etc.	0.017	0.003	0.174
11. Maize	0	0	0
12. Large Fish	0.035	0.019	0.035
13. Small Fish	0.041	0.016	0.032
14. Cat fish	0.018	0.011	0.014
15. Meat (lamb, cow, buffalow etc)	0.015	0.021	0.026
16. Chicken & Duck meat	0.029	0.018	0.027
17. Fresh milk	0.041	0.025	0.052
18. Canned Milk	0.001	0.010	0.007
19. Ghee/Butter	0.003	0.003	0.004
20. Eggs	0.007	0.003	0.011
21. Pastry, Pettish, Singara, Nimki, etc.	0.010	0.014	0.052
22. All fish	0.094	0.046	0.083
23. All Meat and Eggs	0.051	0.043	0.065
24. All milk	0.043	0.035	0.060
25. Pulses	0.017	0.005	0.019
26. Potatoes	0.010	0.009	0.011
27. Vegetables	0.041	0.030	0.044
28. Edible Oil (except Soyabean)	0.020	0.011	0.021
29. Soyabean	0.002	0.002	0.000
30. Spices	0.013	0.051	0.005
31. Fruits	0.005	0.012	0.011
32. MR Sugar	0.000	0.001	0.000
33. Market Sugar	0.004	0.003	0.008
34. Gur	0.006	0.001	0.005
35. All rice	0.208	0.121	0.166
36. All wheat	0.002	-0.000	-0.039
37. All Cereals	0.228	0.072	0.144
38. All vegetables & fruits	0.056	0.052	0.067
39. All edible oil	0.017	0.014	0.022

Table 2.16

Distribution of Per Capita Expenditure on Ration Goods by Quartiles

(in Tk.)

	Per Capita Expenditure				
	Total	Rice	Wheat	Sugar	Total Exp. on Ration
1st quartile	3031	11.45	2.17	-	13.62 (.449)**
2nd quartile	3129	5.59	6.44	1.63	13.66 (.437)
3rd quartile	4200	3.76	7.96	0.25	11.97 (.285)
4th quartile	4672	0	5.85	2.84	8.69 (.186)
All quartile	3740	5.33 (44.27)	5.56 (46.18)	1.15 (9.54)	12.04 (.322)
Bottom 75%	3446	7.00	5.47	0.62	13.09 (.376)
Top 25%	4672	-	5.85	2.84	8.69 (.186)

* Source: Beacon Field Survey 1987/88.

** Figures in the parentheses indicate percentage of total per capita expenditure.

Table 2.17

Quartile Distribution of Per Capita Expenditure on MR Goods as Percentage of Total Cereals

Income Groups	Per Capita Expenditure on cereals (Tk.)	Per Capita Expenditure Ration Cereals (Tk.)	Col. 3 as % of Col.2
Ist quartile	1364	13.62	0.998
2nd quartile	1373	13.66	0.995
3rd quartile	1509	11.97	0.793
4th quartile	1497	8.69	0.580
All quartiles	1434	12.04	0.839
Bottom 75%	1414	13.09	0.926
Top 25%	1497	8.69	0.580

Source: Adapted from table 2.11 and 2.16.

Table 2.18

Distribution of Households Having Less Than 0.50 Acre Land, Having MR Cards and Having Received Ration

UPs	H/H having less than 0.50 acre land (%)	Land Owned by Col.2 (%)	MR card holder H/H (%)	Per capita Expenditure on Ration* (%)
1. Raniganj	58.8	4.2	9.78	.4269
2. Amar pur	59.7	3.4	21.82	.0207
3. Parsuram	55.1	5.5	1.85	.0554
4. Ashkati	66.0	15.5	7.74	.2362
5. Damurhuda	46.0	2.4	41.65	.9685
6. Madanpura	43.5	4.9	54.12	.0245
7. Rudrakar	51.0	7.2	-	-
8. Alipur	51.5	5.1	1.69	.0317
All UPs	54.23	5.1	17.61	0.224

Source: Beacon Field Survey, 1987/88.
* Ration includes rice, wheat, and sugar.

Table 2.19
MR Distribution of Wheat and Atta

UPs	Atta		Wheat through MR Dealers (%)	Total
	Chakki (%)	MR Dealers (%)		
1.Raniganj	-	5	95	100
2.Amarpur	4	-	96	100
3.Parsuram	11	-	89	100
4.Ashikati	35	-	65	100
5.Damurhuda	24	27	49	100
6.Madanpura	13	-	87	100
7.Rudrakar	-	-	100	100
8.Alipur	23	-	77	100
All UPs	14%	4%	82%	100

Source: Beacon Field Survey 1987/88. Also adapted from tables 3.1 and 4.3.

Table 2.20

Retail Price vis Ration Price of Atta (1986/87)

Months	Absolute Difference of Market Price from Ration Price	Market Price as a ratio of Ration Price
July	-0.29	0.956
August	-0.17	0.974
September	-0.33	0.945
October	+0.58	1.088
November	+0.55	1.084
December	+0.25	1.038
January	+0.24	1.036
February	+0.21	1.032
March	-0.03	0.992
April	+0.26	1.040
May	+0.31	1.047
June	-0.07	0.989

Source: Retail atta price was obtained from Directorate of Agricultural Marketing, GOB.

Table 2.21
MR Lifting per Household with MR Cards 1986/87

UPs	Households with MR cards	Quantity lifted by MR dealers per households with cards			Qty. lifted per adult-equivalent member
		Wheat	Rice	All	
1.Ranigani	341	3.859	2.428	6.287	1.048
2.Amarpur	752	1.652	1.089	2.741	0.457
3.Parsuram	56	21.321	14.000	35.321	5.887
4.Ashikati	263	3.502	2.966	6.468	1.078
5.Damurhuda	1559	1.203	0.866	2.069	0.345
6.Madanpura	1439	0.370	0.306	0.676	0.113
7.Rudrakar	-	-	-	-	-
8.Alipur	41	6.000	8.195	14.195	2.366
Average of all unions	4451	1.646	1.200	2.846	0.474

* Rudrakar had lifted 801 mds. MT wheat and 675 mds. of rice.

Source: Census of households, survey of MR dealers.

Table 2.22

Gap Between Amount Lifted and Amount Distributed Under MR (1986/87)

(In mds.)

		All 8 unions*		
		Lifted	Disbursed	Balance
1. Total wheat		8130	1755 (21.6%)	6375
2. Total rice		6017	2321 (38.6%)	3696
	Total	14147 (100%)	4076 (29%)	10071 (71%)
		Entitled	Received	Balance
3. Number of Persons having cards		26706	5764 (21.6%)	20946
4. Amount received per ration card (actual recipient rice & wheat)		-	26.39 kgs.	-
5. Amount received per card (entitlement)		-	5.69 kgs.	-

* Figures in parentheses indicate percentage of the total.

Source: Beacon Field Survey 1987/88 and also Adapted from tables 3.1.

Table 2.23

Households Attitude Towards Acceptance of Maize at 10% subsidy.[a]

	Percentage
1. Percentage of households who would buy maize at 10% subsidy	55%
2. Percentage of households who would not reduce wheat purchase due to maize	45%
3. Percent of households who would reduce wheat purchase	
18% households by	60%
18% "	40%
9.5% "	25%
9.5% "	20%
45% "	0%
100%	

Note: The questions asked in the survey of households was "If the government were to distribute milled maize in place of wheat or atta (of comparable food value) in rural rationing using the same marketing system at a 10% additional subsidy, would you switch from wheat/atta to milled maize as a result ? If yes, by what percentage ?

Table A.1

Distribution of Per Capita Expenditure on Various Food and Non-food Items by Unions

Name of Union (1)	H/H size (2)	Total per capita expenditure (3)	Rice, Wheat and Atta collection (4)	Per capita expenditure on rice (5)	Per capita expenditure on wheat and atta (6)
1. Raniganj	5.19	3431.21	2356.55	1152.02	262.33
2. Amarpur	5.24	3766.64	2616.72	1176.97	58.42
3. Parshuram	6.34	4129.86	2724.62	1422.73	91.45
4. Ashikathi	6.09	3742.79	2139.11	1284.19	156.47
5. Damurhuda	6.97	3636.45	2706.99	1153.77	330.77
6. Madanpura	7.06	3718.71	2940.68	1428.21	75.09
7. Rudrakar	5.68	3737.54	2716.73	1140.78	268.43
8. Alipur	6.03	3716.74	2897.06	1114.87	299.54

	Rice			Wheat			
	From own account production (7)	From market purchase (8)	From ration (9)	From other sources (10)	Own-account output (11)	Market purchase of atta/wheat (12)	Rationing (13)
1.	356.3	750	6.1	16.2	-	254.4	7.9
2.	684.6	470	-	-	-	58.4	-
3.	660.6	762.1	-	-	-	91.4	-
4.	165.9	1115	3.4	-	-	151.9	4.5
5.	627.4	510	13.0	2.8	33.4	277.0	20.3
6.	712.0	716	0.4	-	-	75.1	-
7.	428.2	703	-	10.0	65.2	-	
8.	499.0	571	-	21.5	83.8	214.6	1.18

Table A.1 (Contd.)

	Flour, cheera, etc. (14)	Maize (15)	Fish expenditure (16)	Fish exp./capita (17)	Meat expenditure (18)	Meat/capita (19)	Dairy product (20)
1.	44.33	0	924.97	186.63	404.43	75.89	533.84
2.	55.21	0	1276.42	219.49	890.84	159.19	924
3.	109.88	0	1945.71	352.49	1150	181.80	717.6
4.	73.59	0	2571.43	451.73	774.51	127.52	694.97
5.	23.38	0	1212.92	167.29	955.69	124.39	830.46
6.	69.21	0	2377.71	358.90	808.46	122.05	1421.49
7.	60.86	0	1458.86	264.53	758.06	131.03	590.06
8.	55.97	0	1649.49	271.74	937.37	149.48	662.06

	Dairy product/cap (21)	Tinned milk (22)	Tinned milk/cap (23)	Bread, Leaf of tea /cap (24)	Pulse/cap (25)	Potato, Sweet potato/capita (26)	Vegetable/capita (27)
1.	84.77	0	0	29.22	75.0	73.20	167.14
2.	147.83	101.05	9.47	57.68	59.36	90.82	209.25
3.	122.98	114.86	15.03	26.10	79.20	104.57	250.21
4.	118.96	29.14	4.15	30.74	72.63	81.63	212.27
5.	100.04	41.85	5.98	15.50	62.25	88.95	218.62
6.	205.91	51.43	2.06	45.88	86.02	61.67	218.47
7.	102.20	108	13.18	31.25	77.74	121.70	279.43
8.	91.95	0	0	27.99	60.52	118.04	259.43

Table A.1 (Contd.)

	Mustard Soyaben oil and others/ cap. (28)	Onion,chilli turmeric, Garlic etc./ cap. (29)	Spice/ cap. (30)	Fruit/ cap. (31)	Sugar Ration/ cap. (32)	Sugar Market price/ cap. (32)	Gur/ cap. (33)
1.	80.15	156.80	14.66	25.23	0.65	16.17	33.22
2.	122.27	112.43	23.43	37.69	0.76	29.37	35.59
3.	113.61	101.93	21.60	23.16	2.29	27.63	29.99
4.	78.52	94.66	23.35	22.52	0.94	22.33	39.49
5.	107.55	99.70	16.87	36.07	1.92	16.27	38.06
6.	102.18	69.68	25.08	4.4	0.51	12.63	42.86
7.	117.28	80.19	11.77	18.04	0.34	24.26	41.79
8.	100.91	77.29	11.91	26.02	0	20.90	34.26

	Sweet, Cheese tea, cofee (34)	Bidi, Tobacco cigarette (little price) (35)	Cigarette (High price) (36)	Fuel (for cook) (37)	All soap (38)	Shampu, cosmatic coconut oil (39)	Match (40)
1.	13.32	43.93	0	284.09	54.52	45.99	7.67
2.	31.36	59.18	0	291.53	52.84	41.18	7.39
3.	35.72	84.17	18.86	180.42	69.70	56.01	11.18
4.	33.46	99.89	0	118.58	58.36	43.38	7.39
5.	31.75	84.67	8.24	285.72	44.28	28.01	8.09
6.	24.66	62.68	0	178.67	47.92	35.06	7.35
7.	8.05	95.42	5.71	318.45	55.67	105.94	9.17
8.	2.40	74.16	0	271.08	50.50	37.17	10.22
All areas	22.74	75.25	4.09	242.51	54.07	48.70	8.53

Table A.1 (Contd.)

	Cloth handloom product (41)	Cloth Mill product (42)	Second hand cloth (43)	Others cloth (44)	Umbrella shoe (45)	Stove (46)	Hurricane, torch, Battery, Kerosine (47)
1.	122.61	53.72	10.39	20.79	15.87	11.03	38.22
2.	136.66	88.10	7.44	27.93	22.26	20.47	49.36
3.	143.61	89.01	7.47	38.43	20.37	13.24	49.85
4.	142.72	81.75	6.65	26.32	16.21	12.55	47.59
5.	115.45	50.30	18.31	12.23	12.23	10.46	8.57
6.	143.81	81.37	10.49	26.71	17.72	12.22	43.02
7.	131.13	78.02	28.12	15.00	17.30	11.39	45.11
8.	133.63	61.69	23.69	14.34	15.86	18.41	41.42
All areas	133.40	72.71	14.04	22.61	16.96	13.47	42.98

	Lock, key (48)	Other useable things (49)	Education Exp. (50)	Medical (51)	Communication (52)	Gifts (53)	Rice and wheat husking (54)
1.	0.84	4.55	33.93	36.97	12.66	4.26	9.78
2.	1.06	0.79	45.42	65.45	17.60	18.30	25.43
3.	1.88	0	61.02	76.59	10.16	11.98	10.15
4.	1.12	0	30.39	118.64	7.12	4.73	1.26
5.	0	1.80	19.35	46.44	9.48	3.77	7.78
6.	1.17	1.20	76.46	59.60	11.97	5.48	11.89
7.	0.68	1.92	8.68	29.23	4.93	0.81	18.17
8.	1.09	5.17	30.37	33.39	6.97	3.05	17.47
All areas	0.97	1.93	37.99	58.05	10.20	6.61	12.78

Table A.1 (Contd.)

	Remaining repair & Maintenance (55)	Barbar Exp. (56)	Miscellaneous (57)	Festivities (58)	All Others (59)	Per capita Expenditure (Tk.) (60)
1.	22.40	9.89	1.30	22.39	1.23	3431.21
2.	3.38	14.66	2.49	19.42	5.06	3766.64
3.	0	17.15	0.16	14.03	1.15	4129.86
4.	0	13.31	0	9.56	0	3742.79
5.	4.24	12.45	0.04	11.62	5.35	3636.45
6.	1.36	14.33	0.78	16.62	1.19	3728.71
7.	1.65	13.81	0.46	18.48	2.17	3737.34
8.	3.74	11.46	0.84	13.81	5.62	3716.74
All areas	4.70	13.36	0.77	15.77	2.78	3740.00 (100%)

Table A.2

Quartile Distribution of Expenditure
with Detailed Components

Quartile (1)	Consumption ex own account production, rice (2)	Market purchase, rice (3)	Purchase from modified rationing, rice (4)	Rice obtained from other sources (5)	Consumpex own-account production, wheat (6)	Market purchase, wheat (7)
Ist quartile	315.77 (10.42)	739.10 (24.38)	4.45 (.147)	22.0 (.726)	33.75 (1.113)	239 (7.885)
2nd quartile	523.58 (16.733)	658.62 (21.049)	5.59 (.179)	6.33 (.202)	27.24 (.871)	147.12 (4.70)
3rd quartile	760.01 (18.09)	581.47 (13.843)	3.76 (0.089)	1.12 (..)	18.25 (0.434)	133.85 (3.187)
4th quartile	1004.91 (22.37)	350.40 (7.80)	0 0	0 0	28.62 (0.637)	70.33 (1.566)
All quartiles	646.62 (17.33)	590.00 (15.77)	5.33 (.1425)	1.66 (..)	26.71 (0.716	148.8 (3.99)
Bottom 75%	529.19 (15.36)	661.17 (19.19)	4.60 (0.134)	10.70 (0.311)	26.54 (0.770)	100.17 (2.91)

Note: In this table, figures in parentheses represent percentage share in total expenditure of an item. The figures above the parentheses are expenditure per year on that item.

	MR Wheat (8)	FFW Wheat (9)	FGFP Wheat (10)	Flour, cheera, muri, suzi, semai etc (11)	Maize (12)	Large fish (13)
Ist quartile	2.17 (0.0716)	6.10 (0.2012)	0 0	43.89 (1.448)	0 0	45.41 (1.50)
2nd quartile	6.44 (0.2060	.97 (..)	7.49 (0.239)	39.71 (1.269)	0 0	76.42 (2.442)
3rd quartile	7.96 (0.189)	2.07 (0.0492	4.51 (0.107)	77.28 (1.84)	0 0	109.96 (2.618)
4th quartile	5.85 (0.1302	.83 (..)	2.78 (0.62)	89.40 (1.99)	0 0	148.90 (3.314)
All quartiles	5.57 (0.149)	2.55 (..)	3.65 (0.098)	62.34 (1.671)	0 0	94.51 (2.533)
Bottom 75%	5.47 (..)	3.10 (0.114)	3.9 (1.55)	53.45 0	0 (2.225)	76.69

Table A.2 (Contd.)

	Small fish (14)	Cat. fish (15)	Meat of lamb, cow buffalow etc. (16)	Chicken or duck meat (17)	Fresh milk (18)	Canned milk (19)
Ist quartile	111.09 (3.67)	23.48 (0.775)	29.55 (0.975)	45.04 (1.486)	31.18 (1.03)	0 0
2nd quartile	124.56 (3.98)	24.08 (0.77)	47.06 (1.503)	54.36 (1.737)	43.05 (1.375)	5.39 (0.172)
3rd quartile	184.51 (4.39)	36.52 (0.869)	60.25 (1.434)	95.94 (2.284)	107.45 (2.558)	7.13 (0.169)
4th quartile	163.38 (3.314)	50.56 (3.637)	110.56 (1.123)	109.81 (2.461)	192.64 (2.445)	24.72 (4.29)
All quartiles	145.55 (3.90)	33.53 (0.899)	61.40 (1.646)	75.89 (2.034)	92.66 (2.484)	9.16 (0.245)
Bottom 75%	139.53 (4.05)	27.95 (0.811)	45.33 (1.315)	64.75 (1.878)	60.03 (1.742)	4.10 (0.119)

	Ghee/ butter (20)	Pulses (21)	Potato-es (22)	Vegeta-ble, spinach (23)	Mustard oil (24)	Soybean oil (25)
Ist quartile	0 0	47.06 (1.552)	46.53 (1.535)	169.31 (5.585)	47.34 (1.562)	21.22 (0.70)
2nd quartile	0.44 (..)	52.15 (1.666)	55.35 (1.77)	194.57 (6.22)	65.39 (2.089)	17.34 (0.554)
3rd quartile	5.14 (0.122)	75.18 (1.789)	61.22 (1.457)	221.97 (5.28)	96.61 (2.30)	20.18 (0.480)
4th quartile	13.14 (0.293)	100.54 (2.238)	72.36 (1.61)	264.97 (5.90)	213.44 (4.75)	86.09 (1.916)
All quartiles	4.61 (0.124)	68.46 (1.835)	58.74 (1.574)	212.27 (5.689)	77.92 (2.088)	21.14 (0.566)
Bottom 75%	1.83 (0.053)	57.93 (1.681)	54.23 (1.574)	194.81 (5.653)	69.37 (2.013)	19.61 (0.569)

Table A.2 (Contd.)

	Other edible oils (26)	Onion, garlic, turmeric salt (27)	All other spices (28)	Fruits (29)	MR Sugar (30)	Market Sugar (31)
Ist quartile	.42 (..)	67.87 (2.239)	11.19 (0.369)	13.47 (0.444)	0 0	2.33 (0.077)
2nd quartile	.22 (..)	69.51 (2.22)	15.12 (0.483)	15.04 (0.481)	1.63 (0.052)	16.56 (0.529)
3rd quartile	0 0	93.40 (2.22)	21.73 (0.517)	28.01 (0.666)	0.25 (..)	25.07 (0.596)
4th quartile	1.06 (0.024)	347.42 (7.734)	73.42 (1.634)	52.15 (1.16)	2.84 (0.0632)	43.13 (0.96)
All quartiles	.26 (..)	85.32 (2.286)	12.03 (0.322)	26.97 (0.723)	1.16 (0.031)	23.17 (0.62)
Bottom 75%	.22 (..)	76.77 (2.227)	15.93 (0.462)	18.74 (0.543)	.62 (..)	16.65 (0.483)

	Gur (32)	Curd (33)	Bidi,Tobbaco (34)	Costly Cigarette (35)	Fuel (36)	Fuel (37)
Ist quartile	1.13 (1.027)	29.32 (0.967)	71.82 (2.369)	9.04 (0.298)	165.90 (5.473)	56.04 (1.848)
2nd quartile	31.07 (0.992)	19.46 (0.622)	68.60 (2.192)	0 0	246.22 (7.87)	51.84 (1.656)
3rd quartile	36.22 (0.862)	37.00 (0.88)	94.09 (2.24)	10.37 (0.246)	226.31 (5.387)	52.62 (1.252)
4th quartile	38.56 (0.858)	7.18 (0.16)	59.03 (1.31)	8.35 (0.19)	242.84 (5.41)	47.00 (1.05)
All quartile	33.86 (0.907)	23.38 (0.626)	73.47 (1.969)	6.97 (0.187)	219.79 (5.89)	52.00 (1.393)
Bottom 75%	32.28 (0.936)	28.61 (0.830)	78.05 (2.265)	6.52 (0.189)	211.96 (6.151)	53.55 (1.554)

Table A.2 (Contd.)

	Shampo, cosmetics coco-oil etc. (38)	Match (39)	Hand-loom clothes (40)	Textile cloths (41)	2nd hand cloth (42)	Others clothes (43)
1st quartile	42.55 (1.403)	8.41 (0.277)	101.88 (3.361)	39.91 (1.316)	15.07 (0.497)	8.90 (0.293)
2nd quartile	37.16 (1.187)	7.80 (0.249)	124.27 (3.971)	74.45 (2.379)	12.50 (0.399)	16.44 (0.525)
3rd quartile	41.59 (0.990)	8.10 (0.192)	135.73 (3.222)	82.29 (1.959)	11.23 (0.267)	22.70 (0.540)
4th quartile	65.85 (1.47)	6.82 (0.152)	155.54 (3.462)	121.28 (2.699)	17.26 (0.384)	51.21 (1.140)
All quartiles	46.75 (1.253)	7.80 90.209)	129.08 (3.459)	78.96 (2.116)	14.04 (0.376)	24.58 (0.658)
Bottom 75%	40.47 (1.174)	8.11 (0.235)	120.29 (3.490)	65.09 (1.888)	12.97 (0.376)	15.88 (0.460)

	Umbrella, Shoes (44)	Stove (45)	Lantern, Torch, Battery Kerosine (46)	Lock, Key, Shilpata (47)	Other domestic usuables (48)	Education (49)
1st quartile	10.64 (0.351)	8.27 (0.273)	27.92 (0.921)	.23 (..)	1.66 (0.055)	12.47 (0.411)
2nd quartile	13.16 (0.420)	10.85 (0.346)	38.16 (1.219)	.22 (..)	1.00 (0.032)	30.59 (0.978)
3rd quartile	19.21 (0.457)	12.35 (0.294)	40.05 (0.953)	0.74 (..)	1.17 (0.028)	49.49 (1.178)
4th quartile	31.94 (0.711)	22.47 (0.50)	55.25 (1.23)	3.00 (0.0667)	3.57 (0.794)	120.38 (2.679)
All quartiles	18.63 (0.499)	13.41 (0.359)	40.20 (1.077)	1.03 (..)	1.85 (..)	52.62 (1.410)
Bottom 75%	14.27 (0.414)	10.40 (0.302)	35.24 (1.002)	0.39 (..)	1.28 (0.037)	30.52 (0.885)

Table A.2 (Contd.)

	Medical (50)	Trans-port (51)	Gift (52)	Husking grinding (53)	Repairs, Mainte-nance (54)	Shaving and Hair cutting (55)
Ist quartile	31.14 (1.027)	2.41 (0.08)	0.79 (..)	6.73 (0.222)	1.92 (0.063)	10.82 (0.356)
2nd quartile	49.48 (1.581)	10.82 (0.345)	2.98 (0.095)	11.32 (0.361)	0.35 (..)	12.13 (0.387)
3rd quartile	68.76 (1.637)	8.15 (0.194)	7.66 (0.182)	15.14 (0.360)	3.63 (0.086)	12.71 (0.302)
4th quartile	77.89 (1.734)	23.19 (0.516)	19.18 (0.427)	27.86 (0.620)	13.53 (0.301)	18.55 (0.413)
All quartiles	56.50 (1.514)	11.01 (0.295)	7.55 (0.202)	15.11 (0.404)	4.81 (0.129)	13.52 (0.362)
Bottom 75%	49.46 (1.435)	7.04 (0.204)	3.76 (0.109)	10.94 (0.317)	1.97 (..)	11.87 (0.344)

	Various Taxes (56)	Festi-vals (57)	Others (58)
Ist quartile	0.05 (..)	4.78 (0.158)	1.02 (..)
2nd quartile	0.54 (..)	11.20 (0.357)	1.26 (..)
3rd quartile	0.25 (..)	16.04 (0.382)	5.15 (0.122)
4th quartile	3.93 (0.088)	37.66 (0.838)	5.80 (0.129)
All quartiles	1.17 (0.032)	17.23 (0.462)	3.27 (0.008)
Bottom 75%	3.11 (0.090)	10.57 (0.307)	2.40 (0.071)

Table A.3

Estimated Income Elasticities

Commodities (1)	Elasticities Q_1-Q_3 (2)	Q_4 (3)	Q_1-Q_4 (4)
1. Self Produced Rice	2.88	2.671	3.245
2. Market Purchased Rice	3.274	2.445	3.794
3. Ration Rice	-0.169	0	-0.196
4. Rice Obtained from Other sources	0.411	0	-0.340
5. Self Produced wheat(atta)	0.298	-0.208	-0.017
6. Wheat from market	1.720	-3.137	-3.280
7. MR Wheat	0.139	0.093	0.060
8. FFW wheat	0.305	0.403	-0.134
9. VGFP wheat	-0.728	-0.523	0.462
10. Flour, Fired rice, Suzi, Semai etc.	1.652	0.463	1.941
11. Maize	0	0	0
12. Large Fish	2.997	1.259	2.608
13. Small Fish	1.147	0.474	0.917
14. Cat Fish	2.908	0.721	1.888
15. Meat(Lamb, Cow, buffalow, etc.)	0.626	1.778	1.713
16. Chicken & Duck Meat	3.026	1.989	2.867
17. Fresh milk	3.113	0.898	3.223
18. Canned Milk	0.337	1.144	0.796
19. Ghee/Butter	0.616	0.675	0.932
20. Eggs	0.868	0.760	1.145
21. Pastry, Pettish, Singara, Nimki, etc.	0.763	0.376	0.925
22. All Fish	1.613	0.671	1.414
23. All meat and eggs	1.492	0.944	1.890
24. All Milk	3.236	1.073	3.482
25. Pulses	1.246	0.124	1.302
26. Potatoes	0.833	0.565	0.727
27. Vegetables	0.673	0.430	0.749
28. Edible Oil (except Soybean	1.575	0.097	1.321
29. Soybean	0.499	0.310	-0.071
30. Spices	0.579	0.014	0.630

(Contd...)

Table A.3 (Contd.)

Commodities (1)	Elasticities Q_1-Q_3 (2)	Q_4 (3)	Q_1-Q_4 (4)
31.Fruits	1.118	1.934	1.616
32.MR Sugar	-0.146	0.552	0.236
33.Market Sugar	1.237	0.611	1.968
34.Gur	1.100	0.120	0.600
35.All Rice	0.667	0.340	0.551
36.All Wheat	-1.090	-3.252	-2.789
37.All Cereals	0.598	0.170	0.409

Footnotes

1. Foodgrain availability here equals net production plus offtake minus domestic procurement. Net production equals gross production minus 10% on account of seeds and wastage. Diffusion of high-yielding-variety seeds on farm means of course that using a constant seeds-to-output ratio may likely overstate seed requirements. The point is conceded, of course. However, this does not change the basic conclusion reached in the text below.

2. Besides SR the other priority ration conduits are Essential Priorities (EP), Other Priorities (OP), Large Employers (LE) and Flour Mills (FM). For a description of the eligibility conditions under each of these various ration channels of the public foodgrain distribution System, see (Chowdhury 1986).

3. No uniformity appears to exist on the basis of the tax categorisation in use in our eight unions. Thus for example in Palashtoli union of Chandpur district, 'B' category had an upper limit of Tk.3, while in Baophal, assessment at taka zero was the basis. The lack of uniformity is not surprising, indeed is even desirable. After all, local government institutions must perceive local conditions (e.g. the affordability of the taxes to be paid to the UP, even by avowedly poor households) to be variable and materially related to local farm and nonfarm prosperity, or the lack of it, in particular years.

4. MR dealers are allowed a fixed handling margin, including his profit, per quintal. The value of the sack, too, is also meant to be retained by the dealer. It is widely believed that this order of handling commission is quite unremunerative to pay for the costs, visible or otherwise, incurred by MR dealers. Understandably therefore, the dealers seem to do well in years when the spread between ration and market prices are further apart-by engaging in leakage. This is the rationale of the negative price coefficient posited in the text.

5. Chowdhury has shown that leakage out of MR at the dealers' level in 1984/5 represented over one-half of the offtake quantity (1988).

6. This is a plausible conjecture to make. Ceteris paribus, grain traders in high-distress districts may likely betray more conservative attitude in terms of allocation of grain for distribution in the present as opposed to futurte periods. Surplus households may want to ensure against sudden price spurts through higher stocks levels relative to production. On both counts, grain price levels in high-distress districts may be higher than otherwise. Becuase ration prices are fixed territorially, this

may imply market prices being further apart from ration prices in these districts. Hence the higher lifting-to-allotment ration.

7. For evidence on the recent trends of real rural wages, see Rahman and Haq (1988). For evidence on increased female labour force participation rates in handloom industry, see Chowdhury and Latif, 1988.

8. The other practical issue is how the DPL is prepared. Is this prepared on the basis of objective data as to land ownership and other indicators of households' net worth ? Or, is it put together on the basis of informed judgements by the chowkidars of the various wards within the union, who are arguably among the most knowledgeable sources about the means available to rural households to pay Chowkidari Tax ? This is taken up below.

9. Physical ownership must be moderated by considerations of cropping intensity, yield, the type of crop harvested,etc. The concern ultimately is with the ability to pay taxes in cash, that is, with the ability to sell something for cash. This is the rationale of allowing that in certain localities (e.g. some char areas, like Ranigaon on our sample) one acre may be a proper cut-off for zero payment.

10. This is to be compared with the evidence in an earlier report (Chowdhury et al, 1986, ch.9) that 95% of a random sample of 'A' and 'B' category households were found to be correctly so categorised. Mis-classification (of households with higher tax rating into 'A' and 'B' categories) was about 5%. The evidence now presented implies that better than 90% of the times, 'A' and 'B' category households are either landless, functionally landless or marginal farmers.

11. A breif questionnaire was mailed to the District Controllers of Food in all new districts in Bangladesh. The questionnaire solicited data, month-by-month, regarding the following: a) quantity of rice and wheat allotted and lifted for distribution in the unions; b) quantity of rice and wheat allotted, and lifted for distribution, in paurashavas; c) quantity of wheat allotted and lifted by atta chakkiwalas; d) the number of cards as issue at MR in the unions, and in the paurashavas; e) the number of MR dealers and approved chakkis in 1980/81 and in 1986/87; f) the quantity of rice and wheat offtake for distribution in Food-for-Works Programme (FFWP), Vulnerable Group Development (VGD), Other Priorities (OP) and Essential Priority (EP) in 1986/87. The basic idea of the data set has been to sort out the relative levels of MR activity as between the UPs and pourashavas in the districts, as between the distribution through MR dealers as opposed to the approved chakkis. The other idea has been to gather information as to the scale of operation of the other relevant channels of the PFDS at the district level.

12. As noted already, the Government has compiled upazila-wise distress ranks ranging from 1.0 for an average or better upazila, to 1.10 for above-average distress factors, through 1.25 for high and 1.50 for very high distress factors. Admittedly, these ranks are qualitative indicators.They are comparative and not absolute categories, ordinal and not cardinal. Ideally, they should not be averaged. In the absence of any other district level indicator of distress, use is made of district averages with this caveat in mind. Districts having averages of 1 do not include even one upazila having a score of more than 1. (In that case, their average would be greater than 1.0.) As such, these are districts which clearly are composed only of average or better upazila. These can therefore quite properly be used as the standard for other districts. This makes the averaging acceptable.

13. The data of this table were generated during the complete enumeration of the population in all eight unions and the survey of twenty seven MR dealers from these eight unions. All MR dealers in these unions were interviewed. For this particular subsection, adult-equivalent family size per household is assumed to be six, for purposes of calculating quantity of foodgrain distributed per MR card in the unions. The results obtained from this body of data are quite consistent with those suggested by the household survey, which was methodologically independent.

14. We were ourselves a bit surprised at first by the comparatively large percentage of households who admit to willingness to reduce consumption of wheat by as much as 60% or 40%. However, this is not altogether implausible. This means that 18% (or 52) households would consume milled maize and wheat/atta in a 60:40 ratio. Another 52 households would consume them in a 40:60 ratio. And so on. Given that about half of the sample is in poverty, such substitution is to be expected.

15. An apt analog of this exists in the context of development assistance to poor countries. There, too, the overall scope and the internal mix of the project in an aid-package depends on the absorptive capacity of the recipients.

16. 11 out of 289 households who reported receipt of any grain under MR in 1986/87, as many as 9 reported receiving upto 3 times each in the whole year. The other two reported receiving 4 and 5 times, each, respectively. If these households are not taken into account, quantity lifted per transaction falls to 5.2 kgs.

Chapter 3

Socio-Economics of MR Dealership

3.1 Background

The role of MR in the PFDS has been discussed in Chapter-2. Possible alternative(s) to this system or the necessary changes required to make this mode of distribution effective in providing food security to the poor will be further discussed in Chapter-5.

The objectives of the present chapter are:

i) to understand the social background of MR dealers;

ii) to examine how pivotal MR dealership is to dealer's economic interests;

iii) to look at the rates of return in the dealers' business;

iv) to look at size distributions of the dealers; and

v) to assess the perceptions of MR dealers themselves about the significance of MR in terms of poverty alleviation.

3.2 The Socio-economic Background of the MR Dealers and the Growth in their Numbers

The analysis presented in this section is based on a sample survey of 27 MR dealers belonging to the 8 UPs under study. Table

A.1 (Appendix-1 Ch.4) shows that about 63% of the MR dealers have education above the primary level and at least 11% of them have SSC-and-above level of education. About 4% are illiterate and approximately 7% of them are unschooled but can read and write. About 26% of the MR dealers have schooling to the primary stage. The average level of education among the MR dealers is higher than that among the proprietors of rural industries, which, in turn, is higher than that among the male population aged 15 years and above in rural Bangladesh. Because the business in MR dealership requires the maintenance of written liasion with the functionaries of the Union Parishad, as also continous contact with the DOF officials, it is expected that the level of education of MR dealers will be higher than that in other, more private, businesses of comparable size. Our findings lead some credence to this expectation.

The average education level of the MR dealers is farily comparable with that of the chakki-owners although the number of entrepreneurs with SSC (Secondary School Certificate) and above degrees is higher in the case of chakki-owners as compared with MR dealers.

We shall examine, at a later stage, whether the relatively higher education level in MR dealership brings in higher rate of return in this trade compared to other business in the country side. Our comparison of the rates of return in the MR dealership should perhaps have been made with commercial enterprises in the country side rather than with the industrial enterprises. The fact of the matter is that the rates of return of commercial enterprises are not readily available. Nevertheless, it is reasonable to assume that, since the rates of return in the commercial enterprises are normally higher than those in industrial enterprise, if the rates of return in MR dealership compare unfavourably with those in the rural industrial sector, it must be

lower than that for the commercial establishments in general.

One way to assess whether business entrepreneurs could exercise their market judgement when undertaking the enterprise is to look at how one had become the owner of the enterprise, and whether the activity was the proprietor's family tradition. Our field survey reveals that an overwhelming majority (93%) of the MR dealers set up the enterprise themselves and obtained the dealership directly from the government and 7% of them inherited the business. This indicates that the MR dealers in our sample had exercised their choice in investing funds and presumably expected a better return than could have been achieved in other acitivities. It may not be too much to say that such an expectation had, in part, to do with possible gains from leakage in the system.

The distribution of MR dealers by land ownership is to be found in Table A.2 (Appendix-2 Ch.4) wherein is also provided a comparison between chakki-owners and MR dealers in respect of land ownership. It appears that more than 44% of MR dealers own 3 acres or more land each as against 57% of the chakki-owners. About 26% of the MR dealers posses less than 1 acre of land on the average and about 30% of them have lands between 1 to less than 3 acres only. Not more than 11% of the MR dealers have lands to the tune of seven acres and above and exactly one third of them belong to the middle category of farmers possessing lands between 3 to less than 7 acres.

It should be mentioned, however, that only a little over 22% of the MR dealers have taken this business as their primary occupation. Because primacy of occupation was probed in the questionnaire in terms of income source, this indicates that for 78% of the MR dealers the dealership is not the major source of income. This is not unexpected. Quantities to be distributed are

small. Besides, handling commission allowed of Tk.16 per quintal is universally deemed to be inadequate. In any case, this is an useful result, because it may inform the character of interventions that appear worthwhile in the field of MR.

3.3 Turnover of the MR Dealership

The turnover of the MR business in the eight UPs under study can be seen from Table 3.1. The total quantity of MR foodgrain transacted by these dealers was 14,147 maunds of which the quantity of wheat was 8,130 maunds (or 57.5%) and that of rice 6,017 manunds (or 42.5%). Whole wheat constitutes about 96% of the total wheat distributed through MR dealership. The share of ground wheat (atta) was 2.3% of the combined quantity of wheat and rice or 4% of wheat alone. The entire quantity of rice was distributed in husked form.

Table 3.1 also shows the mode of distribution within MR system. It appears that about 64% of the ration was distributed through ration card and 36% through slips issued by the UP Members and other authorised persons. In either case, rations were issued on the basis of a distribution priority list (DPL) prepared by the Union Parishad.

The quantity of rice and wheat combined distributed by an average MR dealer in our sample works out to be 524 maunds in 1986/87, with a standard deviation of 203. This finding fairly compares with the actual average offtake of rice and wheat combined as recorded by the Food Directorate.

The number of MR dealers in forty nine "new districts" of the country increased from 12,180 in 1981/82 to 12,263 in 1986/87 despite a decline in the share of MR in the total PFDS and in absolute offtake through the channel. Its share in the PFDS

declined from 24% in 1981/82 to 12% in 1986/87. In terms of combined quantity of rice and wheat, the decline was from 490,626 to 256,743. The quantity per dealer reduced from 40.28 to 20.94 over the same period.

This raises an interesting question: how important the MR dealership still is in terms of income generation to the dealers. From 1981/82 to 1986/87 the turnover of the business declined by 50%. The natural question one would ask is whether the MR dealers still earn a positive rate of return.

The increase in the number of MR dealers under the asumption of negative rate of return is inconsistent with the normal economic behaviour. Nevertheless, the negative rate of return was the general impression we were presented with during our interviews with the MR dealers. It is therefore, imperative that we make an attempt to estimate the economic rate of return for the MR dealers based on the information gathered from our field survey. This we do in the following sub-sections.

3.4 Capital Investment and Rates of Return in MR

Capital of a business firm is normally divided into two parts: fixed capital and working capital. Fixed capital includes land, structure, machinery and equipment etc. Working capital includes cash accounts,receivable and inventories. In most business calculations however the value of land is excluded from fixed capital since land is not subject to depreciation.

Following this convention, the value of land necessary for MR dealership has not been included as investment cost in the present study. Rather, we have included the rent for the shop in the operation cost of the ration shop. The rental value of the ration shop has been worked out by asking questions as to the ac-

tual rent that was paid if the shop was rented in. An attempt was also made to establish what could be earned by renting out the shop, if he actually owned the shop and decided to give up the MR dealership. Thus, the fixed capital in our case includes only the scales, weights and furniture. The information gathered from 27 MR dealers in the sample was averaged to estimate the fixed capital for a typical MR dealer. The same process was used to estimate all the cost and revenue items shown in Table 3.2.

The working capital in the MR dealership mainly represents the cash required to pay for each allotment of ration, transport cost, at least one months' salary of the paid employees, one months rent for the shop (if rented) and a small amount of cash to meet petty-cash requirement.

Dealers normally get their consignment on monthly basis. So the major part of their working capital would constitute about one twelfth of the value of their annual turnover. As is well known, neither fixed capital nor working capital enters into the annual cost of any business. It is the interest on working capital and an annuity on the fixed capital that are included in the operation cost. This is on the assumption that the working capital is required for the entire 30-31 days of a month and 12 months in a year and the fixed capital (e.g. structure) has no other use than for the business concerned. If, for instance, each MR allotment is distributed within a week, than the working capital need not be involved for the entire month. If the dealer has access to a short term credit market or if he has any other business to bank upon, then he can minimise the requirement of working capital. Besides, he can have trade credit or might have entered into an agreement with someone who supplied the necessary cash to sell (illegally) the entire amount to him thus requiring no working capital for himself. Similarly, the structure or other fixed capital may be used for other profit earning purposes. In

that case, the entire annuity on the fixed capital should not be included in, say, MR business. These are all possible ways and means through which the MR dealer can save on cost. Whether he is actually availing of these chances could not be firmly established. So as to be conservative, we assume that the business premises and equipment are used for no other purposes but for the MR dealership. Also the working capital has no other use in between each allotment. We shall see later, how the relaxation of these assumptions change the economic viability of MR business.

Our field survey reveals that only 11% of the ration shops are housed in pucca buildings and 41% are in semi-pucca building, 33% in C.I. sheds and 15% of shops are kutcha houses. The values of these houses vary, as they should, due to the nature and size of the buildings. Accordingly, the monthly rents are also different. Similarly, other costs and income are also different for different MR dealers since their annual offtake deffers. Since our interest centres on overall trend of the business rather than on the individual business, we have averaged the information and presented the economic indicators for a typical MR dealers. Obviously, results obtained for an individual dealer will be different from the average but it is hoped that such differences will not be large enough. Let us now look at Table 3.2.

It is clear from the Table that the MR dealership is not economically rewarding so long as the MR dealer has no other gainful uses, carried on from the same premises (e.g. another sister business, etc) and so long as a reasonable working capital has in fact been used. In other words, if the cost components as shown in the Table reflect true costs, the MR dealership business should not have continued so long. The fact that it has been continuing for a quite long time raises perplexing question how it survives. No definite answer to this question is available to us.

Nevertheless, our interactions of various walks of life give us some insights to explain the position as follows:

i) The MR dealers have other business for which they use the same premises, capital and man power and other facilities.

ii) MR dealers divert a sizeable portion of their allotment to the open market supplies at higher prices. They thus seek to improve their financial position, as against the loss frequently incurred on the portion they sell to the households included in the DPL. The one major upshot here is that there is a perpetual conflict between sales at ration prices and those at the prices of the diverted grains.Small wonder, therefore, that a very small quantity was estimated to have been available to 'A' and 'B' category households on our sample on account of MR.

iii) MR dealers often take out more foodgrains from the government godowns than their allotments, in connivance with godown staff.

iv) MR dealers take unfair advantage of short weights at the expenses of ration receivers.

As discussed earlier, MR dealers appear to be more endowed, entrepreneurially, than their counter-parts in other trades noteably in rual industrial sector. Despite this favourable position, the rate of return in MR dealership has been observed to be negative to the tune of 25% to 59% (see Table 3.2). Looking back at the rural industrial sector, one would find that in some cases such as dhenki products, juice, gur, shital pati etc. negative rates of return are existent but the negativity is far smaller than that in the present case, Moreover, the capital

requirement per labour in these negative return cases is very negligible ranging between Tk.33 in the case of shital pati to Tk. 133 in the case of dhenki product. In the MR dealership case, the capital requirement per worker employed is to the tune of 6 to 7 thousand taka. The rates of return in comparable rural industries range between 75% to 100% (Hossain 1984,p.150). Thus the rate of return obtained in the MR dealership is not only unexpectedly low but also unreliable, because had it been true, the entire capital would have been eaten up in 2-4 years. The fact that they are still operating, although they claim to be at loss, leads us to believe the explanations cited above are at work either separately, collectively or in combination. Therefore, it is not surprising that the number of MR dealers has increased despite their official rates of return being in the negative.

3.5 Perception of MR Dealers about poverty Alleviation Role of MR

Our field survey reveals that the MR dealers themselves do not have a high opinion as regards proper distribution of ration through the MR channel. At least 30% of our dealer interviewees maintain that the ration seldom reaches the target groups and 22% of them are of the view that it reaches the target groups only at infrequent intervals. However, 48% of the MR dealers consider that rations reach the target group most often.

Asked whether the households categoriesed under A and B in the DPL really deserve to be included in the respective categories, the MR dealers opined that not more than 75% of the households really belong to the categories shown against their names.

As regards the character of the co-existence of chakkiwalas parallel to them, more than 74% of the MR dealers consider the chakkis harmful to their (MR dealers') business interest. Only 22% of the MR dealers regard the chakkiwalas as not harmful to their business and 4% did not respond. This can be contrasted with the modal chakkiwala's response in the same situation: the co-existence of the MR dealers was seen as complementary, not prejudical, to his business interest. It is not surprising that MR dealers perceive chakki owners as prejudicial to their business interest. After all ever since chakkis have been used as a distribution channel, quantities distributed through MR dealers themselves have sharply fallen which is resented. The revealing finding of our sample survey is that chakkiwals regard MR dealership beneficial as an institution. From their view point, the more wheat that is distributed in the locality, never mind through whom, the better things are for them. This further suggests that chakkiwalas are keenly interested in operating their own milling capacity at high utilization rates. This view has support from Chowdhury et. al. 1986, (chapter-9). Our own findings are that almost 98% of the total wheat milled by a typical chakkiwala is the wheat that was purchased from the market and taken to the chakkis by other people to get crushed against crushing charges (see Table 4.3).

The opinion of the MR dealers as regards acceptability of maize if sold at a 10% subsidy was encouraging. About 45% of the MR dealers considered that the possibility of favourable acceptance was fair,4% regarded the possibility as highly likely. About 22% of them considered that the probability of acceptance was not bad. Only 29% of the MR dealers view that the possibility of acceptance was rather bleak.

Because the incidence of MR among 'A' and 'B' category households surveyed was insignificant (see Chowdhury et al. 1986, chapter-9 and chapter 2 of this report) alternatives to the institutions of the MR dealers have to be pondered, even forged, with a view to greater capability of targeting at the poor. Greater advantage must be taken of the basic principle that certain commodities or distributional format in ration can self select the poor.Certainly, the case of maize's possible inclusion in the commodity coverage thrusts itself to the fore. Experience from other countries show that maize has high budget share for poor households and quite low income elasticity of demand, maize is likely to self select the poor. The case for introducing maize in rural rationing has been explored in greater detail in chapter-2, as also in chapter-5.

3.6 Summary

Discussion in this chapter was mainly geared to understand the social background of MR dealers, to examine how pivotal MR dealership was to their economic interest and to estimate the rate of returns obtained in this business.Moreover, the perception of MR dealers as regards poverty alleviation role of the MR has also been discussed.

It has been observed that although average MR dealers have higher education level compared to other business of the same capital requirement, the rate of return obtained in the former has been negative to the tune of 24% as compared to 75% to 100% obtained in the latter.

The loss can be explained in terms of the fact that the quantity of ration distributed was small and the handling commission allowed was rather inadequate at Tk. 16.00 only per quintal.

But it does not explain why the number of MR dealers has increased in recent times despite a sharp fall in the quantity distributed per dealer. Our interviews with knowledgeable persons lead us to believe that the following explanations are at work either separately, collectively or in combination.

i) The MR dealers have other businesses for which they use the same premises, capital, manpower and other facilities;

ii) MR dealers divert a portion of their allotment to the open market and use the price advantages to make up the loss;

iii) MR dealers often take out more foodgrain from the government godowns than their allotment and sell the surplus to the open market at profits.

iv) MR dealers take unfair advantage of short weights at the expenses of ration receivers.

Our field survey revealed that more than 74% MR dealers consider the chakkis harmful to their business interest. This can be contrasted with the modal chakki owners' view that the coexistence of the MR dealers was complementary, not prejudicial, to their business interest.

As regards poverty alleviation role of the MR, the MR dealers themselves do not hold a very high opinion At least 30% of them maintain that the ration seldom reaches the target groups and 22% of them are of the view that it reach the target group only at infrequent interval.

As regards acceptability of maize at a 10% subsidy, the MR dealers are by and large, of the view that it will be largely accepted. It was observed that maize has a larger budget share

for poor households and quite low income elasticity of demand. It is, therefore, likely to self select the poor.

Table 3.1

Lifting and Distribution of Ration by Average MR dealers: (1986/87)

(In maunds)

Unions	No.of dealers	Wheat	Rice	Total	Distribution through (%) Ration card	Slips	Total
1.Raniganj	4	329	207	536	17	83	100
2.Amarpur	3	414	273	687	27	73	100
3.Parshuram	2	597	392	989	50	50	100
4.Ashikati	3	307	260	567	50	50	100
5.Dhamurhuda	5	375	270	645	94	6	100
6.Madanpura	4	133	110	243	100	0	100
7.Rudrakar	4	201	170	371	65	35	100
8.Alipur	2	123	168	291	100	0	100
Total	27	8130 (57.5)	6017 (42.5)	14147 (100)	-	-	-
Mean	-	301	223	524	64	36	100
Standard Deviation	-	131	74	203	31	31	-

* Figures in parentheses indicate percentage.

Source: Beacon Field Survey 1988.

Table 3.2

Economic Indicators of the MR Dealership Business in 8 UPs

	(Taka)
1. Fixed Capital	
i) Land 246 sq. ft.	10000
ii) Structure	25000
iii) Furniture, Scales	2000
2. Working Capital including advance payment for wheat and rice in the form of chalan, one months wages of employees transport and administrative	16000
3. Total Investment (excluding the value of land)	43000
4. Total investment required (if the Ration shop is rented)	18000
5. Operation Cost per year:	
i) Amortization of fixed capital other land structures (economic life = 10 years, Interest rate = 15%)	398
ii) Amortization of the value of structure with an assumed life of 30 years. and 15% interest	3808
iii) Annual Rent of the Building (in case 1 (ii) is not o n)	3600
iv) Interest on working capital @ 15%	2400
v) Wages and Salaries (mostly on part-time basis)	6000
vi) Other expenses including maintenance, handling charges, transport and administrative over heads etc.	4000
5.1 Total operation cost with rented shop	16398
5.2 Total operation cost with own ration shop	16606
6. Total Income	5890
i) Average distribution of wheat and rice 20940 kgs. @ Tk.0.16/kg. =	3350
ii) Average number of sacks = 254 @ Tk. 10.00	2540
7. i) Total profit (col.5.1 - col.6)	(-)10508
ii) Total profit (col.5.2 - col. 6)	(-)10716
8. i) Rate of return with total investment as shown in (3)	(-)24.44
ii) Rate of return with total investment as shown in (4)	(-)59.53

Source: Estimates based on the Field Survey 1988.

Chapter 4

Socio-Economics of Atta-Chakkis vis-a-vis Modified Rationing

4.1 Background

Distribution of wheat in MR through approved chakkis in the rural area was first introduced in 1983. In the first substantive evaluation of the appropriateness of this innovation, a team of consultants pointed out a number of its promising features when viewed against the well-known weakness of the conventional MR. The advantages claimed for the chakki are as follows:

i) Where leakages out of MR involve movement of grain over interdistrict boundaries, a switchover to the chakki-system may facilitate a territorial targetting of the resulting atta supplies (i.e. within the district itself). This may be likely because long-distance haulage of atta-in-sack may be logistically more difficult than that of wheat.

ii) Allotment of wheat through chakkis will increase the chances of wheat availability to the target groups. This is because of Chakkiwalas are likely to find it more economic to crush the alloted wheats in their own mills where capacity is underutilized.

iii) The provision of Government allotment of wheat to the chakkis will ensure a smooth source of suply to them. This, in turn, will increase the employment generation capacity of the rural hullers, thus increasing the poverty alleviation role of the MR.

The present chapter aims at discussing some of the economic characteristics of the chakkis including social background, education, capital requirement and rates of return obtaining in the business. It will explore the importance of government allotment of wheat to the overall business turnover of the chakkis as against their earning by milling wheat from market sources. The chapter also gives an account of the mutual perceptions held by chakki-owners and MR dealers of each other. Finally, chakki-owners' perceptions of the pvoerty-alleviation role of MR are presented. The material presented in the following sections are derived from a survey of 33 chakkis from seven of the eight unions covered for the study.

4.2 The Socio-economic Background of the Chakki Owners and the Growth in their Numbers

The analysis is based on a sample survey of 33 chakkis in seven UPs under study. Raniganj-one of the eight UPs surveyed in the present study, does not have any approved chakki. It appears from our survey results that the number of approved chakkis existing in the area under study prior to 1979/80 constitutes about 70% of the total number existing now. This means that about 30% of the chakkis were set-up during 1980/81 to 1987/88. The results fairly compare with national figures. The number of chakkis in 1980/81 was 5821 or 75% of the number existed in 1986/87 (i.e. 7733).

4.2.1 Socio-economic background of Chakki-owners

Most of the chakki owners (94%) have acquired the enterprise by means other than inheritance, namely through purchase and

founding the enterprises themselves. About 30% of the owners purchased their enterprises and 64% of them founded themselves. Only 6% of the owners inherited the enterprise (See Table-4.1).

Because only 6% of the present owners inherited, it follows that 94% of them represent outcome of private investment choices made, mostly in the 1970s. Also, because these are agents with small means and presumably risk-averse, their choice of chakki-ownership may well have stemmed from careful analysis of demand for atta and supply of wheat. Our field survey reveals that most of them were not sanguine of getting government allotment of wheat prior to the establishment of their units. That they, nevertheless, entered the industry is suggestive of their confidence that there is a future to foodgrain milling for local markets.

The educational qualifications of the chakki-owners under study are better than the national average for the rural industries. As can be seem from Table-A.1 (Appendix-1, Ch.4), the illiterate entrepreneurs constitute only 3% of the total chakki owners as against 46% for the rural industries as a whole. The chakki owners with education level higher than the primary constitute about 61% of the total as against 19% of the national average in the rural sector. With this educational background they are expected to be better equiped to liase with the government officials and maintain the official formalities in their performance. They are also expected to be more capable of maintaining their economic rates of return by being more responsive to market forces vis-a-vis their uneducated counterparts.

About 60% of the chakki-owners have undertaken this business as their primary occupation and the rest (40%) as secondary occupation. (As against this, only 22% of MR dealers regard that dealership as their primary occupation.) To the extent that the

primacy of one's occupation determines where one puts the best part of one's time and energy, their rates of return may be higher than those undertaken as secondary occupation. It is, therefore, expected that the rate of return in chakkis will be higher than that obtaining in the MR dealership on an average.

Table A-2 in Appendix-2, Ch.4 presents the relative distribution of chakki-owners and MR dealers by level of land ownership. It appears that about 58% chakki owners have 3 acres of land or more supporting the view that they belong to the most landed class of the community.[1] But the income from the land for at least 60% of them is not high enough for farming to be treated their primary occupation. The available statistics suggest that chakkis provide a relatively better income generating avenue than investment in land.

It should be noted that MR dealers, too, belong to the most landed class of the society. As can be seen from Table A.2 (Appendix-2, Ch.4) more than 44% of the MR dealers have 3 acres or more lands but only 22% of them expressed MR dealership as their primary occupation. 60% of the chakki-owners regard wheat-crushing as their primary occupation. The difference is striking. Quite plausibly, the rates of return in the chakkis are higher than those in MR dealer. The following two sections will be devoted to the estimation of turnover of the chakkis and the rates of return obtaining in this business.

At this stage, it is apt to present a sense of the recent growth in the number of chakkis. The number of approved rural chakkis in the unions under study upto 1979/80 was about 70% of that existing at present. (This was suggested by year-of-establishment data). About 30% of the chakkis were set up between 1980/81 and 1987/88. These results are reasonably consistent with national figures. Data obtained from forty-nine districts of the

country show that the number of approved chakkis in 1980/81 was 5821. It rose to 7733 by 1986/87. Rate of growth (compound) works out at 11.5 per year. This is strikingly high expansion rate of physical capacity.

4.3 Turn-over of the Chakkis

About one third of the total income of the chakkis was coming from non-mill sources (See Table-4.2). Although from strict economic points of view, non-enterprise sources of income are immaterial to the decision of the enterpreneurs either to expand or quit the business, such income, however, provide a cushion against un-anticipated shocks in the business. It also provides a sort of security against lifting of the government allotment of wheat to the chakkis since allottees without financial strength are likely to be inclined to sell the grain soon after lifting on the spot, so to economise on working capital.

Table 4.3 shows the importance of various sources of income to the chakkis. Only those sources are presented which are internal to the enterprise. It appears that only 2.05% of the total wheat crushed by an average chakki was alloted under the MR. This quantity constitutes only 0.57% of the total foodgrain (paddy plus wheat) crushed by an average chakki. Although wheat constitutes about 28% of the total foodgrain crushed, it accounts for about 49% of the total revenue of the enterprise. This is so because the crushing charges for wheat range between Tk.15.00 to Tk.20.00 per maund whereas those for paddy range between Tk.6.00 to Tk.8.00 per maund only. Thus, the contribution of government allotment of wheat to the internal revenue of the chakkis would appear a little bit better (at 1.12%) than what appears from the percentage of physical quantity crushed (0.57%).

The chakkis are not confined to wheat crushing alone despite their names. They husk paddy -- an activity as important as wheat milling, as also grind spices, which represents about 1% of their business. The diversified expansion of the business by chakki owners suggest their ability to innovate and improvise according as demand diversifies itself.

A substantial proportion of the wheat (70%) crushed by the chakkis was against crushing charges. This particular activity is sustained by the wheat distributed under various modes of PFDS such as MR, OP,FFWP, VGFP, etc. Thus the chakkis are functioning not only as an integral channel of PFDS but also as complementary to other modes of PFDS. Local wheat growers also take a portion of their output to the chakkis for milling. It appears that the existence of the chakkis in the locality has favourable impact on increasing the availability of atta to the local people. Intuitively, it can be argued that if chakkis were not available in the locality much of the wheat alloted under MR, OP etc. would not have been taken to the rural area where the intended beneficiaries would be reluctant to accept wheat which can not be crushed easily. Again, whereas the MR delaers may be prone not to carry their allotment back to the village to economise on thier working capital and the transport cost, the chakki-owner may seek to maximize the capacity utilization of his plant and therefore, offtake the allotment, purchase additional wheat from the market and run the plant so long as he can recover the operating cost. In doing so he will increase the supply of atta to the local people, particularly to the poorer section of the community.

A rough and ready estimate of capacity utilization of chakki has been made and presented in Table 4.3 side by side with the total quantity of food grain crushed. The estimate is based on the asumption that chakkis are working for 300 days per year and

for 8 hours per day. The milling capacity per hour is considered to be 20 maund of paddy and 4 maunds of wheat per hour. Although, it is possible to mill both rice and wheat at the same time, we assume for the sake of simplicity that only one item is milled at a time. We, thus assume that the total milling hours available to the chakki is 300 x 8 = 2400 hours and the total number of hours he has actually used is the quantity of wheat crushed divided by 4 plus the quantity of paddy husked divided hy 20. The ratio of the number of hours utilized to the number of hours available would indicate the proportion of capacity utilization. Table 4.3 shows the inter-UP variations in capacity utilisation as well as the aggregate utilisation in all UPs studied. The single dominant factor determining the capacity utilization seems to be the quantity of paddy husked which accounts for about 72% of the total foodgrain milled by an average establishment. The second important factor is the quantity of wheat that other people have taken to the chakki for grinding. This accounts for about 20% of the total foodgrain milled and 70% of the total wheat crushed. Purchase of wheat from market accounts for about 8% of the total business. The least important contribution to utilization of chakkis is due to government allotment of wheat. As said earlier, it represents less than one percent of the total milling carried out by an average chakki. The eixsting capacity utilization of chakkis is at such a low level that a doubling or quadrupling of the government allotment of wheat to them or entrusting them with the entire MR distribution will not require any additional capacity to be built in the country side. This will in fact raise the value added per unit of capital invested which is after all the most scarce factor of production in Bangladesh.

Atta has a significantly higher budget share for the bottom 50% of the sample households than for the top fifty percent. Atta-chakkis represents a market oriented system. The main aim is to make atta available to the consumers at a stable price. In

1986/87, out of the total distribution through atta-chakki, only 29% was through ration cards and slips (14% and 15% respectively) and 71% was through retailers and direct sale to the public. As the incidence of MR food subsidies are insignificant among the rural households (See Chapter 2), and because the unit budgetary subsidy is as low as 6-8%, the case for a price- as opposed to administratively-dominated system in MR thrusts itself to the fore. Whether the chakkis could become one element of that system will be seen later.

4.4 Capital Investment and Rate of Returns

Economic indicators of the chakkis calculated are presented in Table 4.4. Total investment required for a chakki is approximately Tk.69.2 thousand only, out of which more than one third is represented by the building alone. Often the chakki owners do not own a building rather they rent one, which reduces the capital requirement to the inclusion of machinery and working capital only. Of these two components, machinery accounts for about 69% and the working capital for the remaining 31% of the average capital requirement.

Operating cost includes interest on working capital and capital charges which represent economic depreciation of the fixed assets. Thus, the rate of profit shown in the Table is one which represents the actual reward to the enterpreneurship net of any share of capital. This rates is high, namely, 23%, when we consider the total investment inclusive of building, machinery and working capital. But, rewards to building and working capital are represented by rent and interest (item 4(i) and 4(iii) in the Table), the residue of income minus operating cost should be seen as the reward to the organiser per unit of fixed assets other than land and buildings. From this viewpoint, the rate of return

would be about 54%. This is perceived as substantially higher compared to other rural industries.

4.5 Perceptions of Chakki Owners about the Poverty Alleviation Role of MR

Discussions in Chapter-2 made it clear that the MR in its poverty alleviation role has not been a success. Similar perceptions have been voiced by chakki owners on Beacon sample. Asked whether the ration under MR reaches the deserving households, about 70% of the chakki owners replied that it seldom reaches the deserving households and 15% of them opined that it never reaches the deserving households. About 80% of the chakki owners opined that the MR dealership was not helpful in distribution of ration as intended.

The chakki owners were asked of what percentage of the households listed in "A" and "B" categories in the DPL really belonged to that category. Almost 70% of them did not respond. Thus, no firm conclusion can be drawn on the basis of the remaining respones. The reply from the remaining 30% of the chakki owners indicate that only 48% of the households listed in "A" and "B" categories in the DPL actually deserved to be included in that category.

Asked whether the existence of MR dealers was prejudicial or profitable to their economic interests, 68% of them put the relationship as advantageous. This is because dealers sell grains that need milling.

Enquiries were made about the acceptability of rationed maize if supplied at 10% lower than market price. The resulting pattern of responses was encouraging. About 64% of the chakki

owners answered that the possibility of acceptance was fair and at least 6% of them answered that the probability was high. Over 12% of the respondents answered that the possibility was not bad. Only 18% of the respondents replied that the possibility was rather bleak. The survey results and our interactions with the local people suggest that the introduction of maize will be a step forward in providing a greater degree of self-selecting poverty targetting in rural rationing in Bangladesh.

4.6 Summary

In this chapter we have discussed the socio-economics of atta-chakkis vis-a-vis modified rationing. The findings of the chapter are as follow:

i) Chakkis provide a relatively better income generating avenue than investment in land;

ii) The rates of return in chakkis range between 23% to 54%.

iii) Government allotment of wheat contributes very little to the overall turnover of chakkis. Government allotment constitutes only 2.05% of the total wheat crushed by a typical chakki and only about one half of one percent of the total foodgrain crushed.

iv) Chakkis are not confined to wheat milling alone. They also mill paddy and spices. The diversified expansion of the business suggests their ability to innovate and improvise according as demand diversifies itself.

v) About 70% of the wheat crushed by the chakkis was against crushing charges. This particular activity is sustained by the wheat distributed under various modes of PFDS such as MR, OP, FFWP, etc. Thus, chakkis are functioning not only as an integral channel of PFDS but also as complementary to other modes of PFDS.

vi) Existence of chakkis makes wheat acceptable to recipients who can crush it as they like. On the other hand, chakki owners themselves are apt to maximize the capacity utilization of their plants. This increases the supply of atta to the local people, particularly to the poorer section of the community.

vii) A rough and ready estimate of capacity utilization of chakkis has been made and presented in the text. It was concluded that the chakkis are highly underutilized. If government decides to channel more wheat through chakkis, no additional capacity will be required.

viii)Chakki owners consider MR dealers not pre-judicial rather beneficial to their business. This is contrary to the view held by MR dealers to chakki owners.

ix) Chakki owners are by and large, of the view that ration under MR seldom reaches the deserving households.

x) Most of the chakki owners opined that maize supplied at 10% subsidy would be acceptable.

Table 4.1
Distribution of Chakkis by Circumstances of Inception

Founder	Number of Enterprise	Percentage
Inherited	2	6
Purchased	10	30
Set up	21	64
Total	33	100

Source: Field Survey 1988.

Table 4.2

Distribution of Chakkis by Average Earnings

UPs	Crushing charges (Tk/md)	Wheat	Crushing charges (Tk/md)	Paddy	Spices	Total columns (2+4+5)	Other	Total col. (6+7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.Raniganj	-	-	-	-	-	-	-	-
2.Amarpur	16.90	9460	6	90000	-	99460	59864	159324
3.Parsuram	16.13	12581	6	12000	1600	26181	17403	43583
4.Ashikati	12.14	44918	6	60000	1600	106518	1800	108318
5.Damurhuda	12.00	45600	6	25200	-	70800	27980	98780
6.Madanpura	20.00	42400	8	29200	-	71600	54425	126025
7.Rudrakar	20.00	56500	8	11600	-	68100	20280	88380
8.Alipur	20.00	32300	8	16240	-	48540	29000	77540
Mean		34267 (48.88)		35358 (50.43)	485 (0.69)	70109 (100)	29435 (29.57)	99544 (100)
Standard Deviation		16757		28019	735	26366	19147	34712

* Figures in the parentheses indicate percentage.
Source: Feild Survey, 1988.

Table 4.3

Distribution of Chakkis by Average Quantity of Foodgrain Crushed and Percentage of Capacity Utilized

UPs	Nos.	GA	PM	CC	Total	Paddy	Spices	Total (Col. 6-8)	Capacity-utilization (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Raniganj	-	-	-	-	-	-	-	-	-
2. Amarpur	5	10	100	450	560	15000	-	15560	37
3. Parsuram	5	30	50	700	780	2000		2790	12
4. Ashikati	5	100	2500	1100	3700	10000		13708	59
5. Damurhuda	4	150	1100	2550	3800	4200	-	8000	48
6. Madanpura	4	20	100	2000	2120	3650		5770	30
7. Rudrakar	5	-	300	2525	2825	1450		4275	32
8. Alipur	5	15	100	1500	1615	2030		3645	21
Total:		1455	20050	49575	71080	183800		25470	
		(2.05)	(28.21)	(69.74)	(100)				
Mean		44	608	1502	2154	5570		7727	
		(0.57)	(7.87)	(19.44)	(28)	(72%)		(100)	
Standard Deviation		50	862	782	1214	4850		4818	

Note: GA = Govt. Allotment.
PM = Purchase from market.
CC = Milling against crushing charges.

* Figures in the parentheses indicate percentages.

Table 4.4

Average Economic Indicators of the Flour Mills

	Taka ('000')
1. Fixed Capital	
i. Land 500 sft.	10.000
ii. Shed/Building	25.000
iii. Machinery/Equipment	30.000
iv. Furniture	0.700
v. Average Rent of the house (if rented)	3.600
2. Working Capital including one months salary/wages of employees, stock in hand, outstanding receivable and money deposited with the food Deptt. for further allotment.	13.000
3. Total Investment (excluding value of land)	68.700
4. Operation Cost:	54.027
i. Annual Rent for building	3.600
ii. Amortization of fixed capital (i.e. machinery only) assuming 10 yrs. of life and 15% rate of interest[1]	5.977
iii. Interest on working capital @15% per annum	1.950
iv. Wages/Salary including the imputed cost of family workers @ Tk.600/- pm.	18.000
v. Maintenance, Fuel Transport marketing and overhead expenditures.	24.500
5. Total income (See Table 4.2)	70.109
6. Total Profit (Col.5 - Col.4)	16.082
7. Rate of Profit (net)	23.41%

1. The amortization represents the annual repayment of a part of the capital and interest charges on the total capital in use.

* Based on capital Recovery Factor defined as:

$$CRF = \frac{C(1 + C)^n}{\{(1 + C)^n\}-1}$$

Where C = cost of capital in percent i.e.
N = life of the project.

Source: Beacon Field Survey 1988.

Appendix-1

Table A1
Distribution of Chakki Owners Rural Industrial Entrepreneurs and MR Dealers by Level of Education

Level of Education	Rural Male population aged 15 yrs. & above (%)	Rural Industrial Entreprenuers (%)	Chakki Owners (%)	MR Dealers (%)
1. No. formal Education	71	46	3	11**
2. Upto Primary level	13	35	36	26
3. Above Primary* less than SSC	13	15	43	52
4. SSC and Above	3	4	18	11
Total:	100	100	100	100

Source: Adapted from Bakht (1984,P-46) and our Field Survey 1988.
* SSC = Secondary School Certificate.
** 4% illiterate and 7% are unschooled but can read and write.

Appendix-2

Table A2
Distribution of Chakki Owners and MR Dealers by Ownership of Land

Land Ownership (acreage)	Chakki owners (%)	MR Dealers (%)
0-0.99	18.2	26.00
1.0-2.99	24.2	29.6
3.0-6.99	30.3	33.3
7.0-over	27.3	11.1
Total:	100	100

Source: Field Survey 1988.

Appendix-3

S(Economic Aspects of Foodgrain Traders

1. Introducti.

The analysis is based on a sample survey of 40 foodgrain traders randomly selected from 8 UPs under study. The objective of this study is to compare the economic status of foodgrain traders with those of MR dealers and chakki owners. The analysis will hopefully provide some insights whether the chakkis and MR dealers are in any advantageous situation on being licentiate of the MR system.

2. Socio-economic Background

Table A.1 shows the distribution of foddgrain traders by education levels. Traders without any formal education constitúte 10% of the total and those with primary level education including those who can read and write without formal schooling constitute about 55% of the total. The remaining 45% have education above primary level but not beyond secondary level. None of foodgrain dealers had education above secondary level. Compared with the literacy level of rural male population aged 15 years and above as described in table A.1 Appendix-1 chapter 4, the foodgrain traders are fairly better. They are also comparatively more educated than the rural industrial entrepreneurs in general. However, their position in respect of education level is not better than those of chakki owners and MR dealers.

Table A.1

Distribution of Foodgrain Traders by Level of Education

Level of Education	Number	% of Total
Illiterate	4	10
Primary	22	55
Secondary	14	35
Higher Secondary	-	-
Total	40	100

Source: Beacon Field Survey 1988.

Table A.2 presents the distribution of foodgrain dealers by operational land holding and income. It is interesting, though not surprising to see that the income per trader is highly correlated with the quantity of land operated.

33 tradesmen out of 40 or about 82.5% of them expressed that foodgrain trade is their primary occupation and 17.5% expressed this as their secondary occupation.

Asked whether they know about the function of atta chakkis as a distribution channel under MR, 37.5% of the foodgrain dealers answered in the affirmative, 27.5% in the negative and 32.5% of them remained indifferent to the question.

Asked wheter the existence of chakkis in anyway affect their business, 37.5% of the foodgrain traders answered in the affirmative, 32.5% were in the negative and 27.5% were indifferent.

Table A.2

Distribution of Foodgrain Traders by Operational Landholdings and Income

Operational Land (acre)	Number of Traders	% of Total	Per Trader Income (Tk.)
0-.49	14	35	20640
0.50-.99	4	10	22650
1.00-2.49	9	22.5	27022
2.50-4.99	10	25	30575
5.00 +	3	7.5	171067
Total	40	100	-
Mean			36043
S.D.			38654

Source: Beacon Field Survey 1988.

Attitude of foodgrain traders were somewhat different from chakki owners and MR dealers as regards possible acceptability of maize at 10% subsidy. As many as 42.5% of them viewed that maize will not be acceptable but not less than 35% of them considered that it would be acceptable at 10% subsidy. Roughly 23% of the traders were indifferent to this question.

Table A.3 shows the structure of business premises used by the foodgrain traders in the area under study. Highest number of enterprises (62.5%) are housed in tinshed and only 2.5% of the traders have pucca structure for carrying out the business.

Table A.3

Distribution of Foodgrain Traders
by type of Structure

Type of Structure	Number of Foodgrain Traders	% of Total
Pucca	1	2.5
Semi-pucca	3	7.5
Tinshed	25	62.5
Others	11	27.5
Total	40	100.0

Table A.4 presents the distribution of foodgrain traders by working capital. It can be seen from the table that the modal number of foodgrain traders have working capital to the tune of Tk.10000 and above. Only 7.5% of the traders have working capital less than one thousand taka. It is also evident from the table that 57.5% of the foodgrain traders in the countryside use working capital equal or less than Tk.10000 only. The evidence suggest that majority of the traders are small businessmen only. These businessmen have neither physical nor financial capability to stockpile and thereby manipulate market prices. It will be in the interest of the price stability and in the greater interest of the consumers at large that these small traders are encouraged in all possible ways to continue and maintain the present level of competitiveness.

Table A.4

Distribution of Foodgrain Traders by Working Capital

Working Capital	Number of Foodgrain Traders	% of Total
< 1000	3	7.5
1000-2000	4	10.0
2000-3000	2	5.0
3000-5000	7	17.5
5000-7500	4	10.0
7500-10000	3	7.5
10000+	17	42.5
Total	40	100.0

Source: Beacon Field Survey, 1987/88.

Footnote

1. According to Agricultural census 1983/84, only 20.1% of the rural households had lands 2.5 acres and above.

Chapter 5

Alternative to MR to Deliver Subsidised Foodgrains to the Rural Poor

5.0.0 Objectives of the chapter

The objectives of the chapter are:

a) to attempt an outline of various alternatives to MR for rural rationing in the context of the urgency of the achievement of foodgrain self-sufficiency within a reasonable time horizon; b) to address regionalisation of distribution channels for food distribution in rural areas; c) to assess the extent of overlap, in space, of different channels of public food distribution especially, as also to devise ways to reduce such overlap, if any, whenever such a case can be made in terms of greater equity (whether inter rural-urban or intra-sectoral).

It seems natural to address the last issue first, as this seems to be an empirical issue mostly. This is also because a discussion of the overlap, if any, of distribution channels may shed some light of its own on the possible alternatives to MR.

By alternatives to MR, we mean what we call conventional MR (i.e., the distribution of wheat and rice through the institution of MR dealers). The research that was reported in the preceding three chapters as also our discussions with senior DOF officials lead us to reject the position that any alternative system of rural rationing that will distribute subsidised foodgrain to the poor and is clearly meritorious and easily implementable exists.

(One alternative is proposed for implementation on pilot-basis later in the chapter). As such, alternatives must be deemed to properly include reforming existing system of MR as well as replacing it in certain geographical areas.

5.0.1 Overlapping of Different Channels

The context here must be overlap in a territorial, temporal and personal sense.[1] An overlap could be said to be undesirable when supplies from several channels constellate for households and regions that do not warrant high food-support priority. An overlap could, on the other hand, be said to be desirable when, say, for very poor households (may be utterly landless ones) supplies from several channels congregate in both (lean and peak) seasons. This would be the case when, for example, landless households in fact can supplement their foodgrain availability in the FFWP season (which is part of the peak season), as also, especially, in the lean months of the monsoon (when there is relatively little work to be found) through the instrument of MR, for example.

Seasonal overlap between various channels is best analysed in the context of the desirability of impacting on food resources of <u>households</u> or <u>regions</u> with high incidence of poverty. The case for rationing has, ultimately, to do with circumstances of the poor. Time or seasons are material because the circumstances of the poor may in part be determined by them. In this study, we did not therefore try to analyse overlap in its seasonal dimension. Also, we believe that the most direct evidence on overlap can be gleaned at the household level. At the district level, for example, aggregation may introduce bias into the results. Consequently, our presentation of the presence of the overlap is based on household data. With this, we examine the data generated

by the household survey so as to establish the degree of congregation of the benefits from MR, FFWP, VGD, EP and OP.[2]

5.1 Overlap at the Household Level Among Channels

A brief description of the nature of data collected for this purpose may be apt at this stage. Information was collected about foodgrains received by the households from each of the following PFDS channels, viz. EP,OP, MR, VGD, FFWP, Institutional Feeding (IF) and GR. Partial correlation coefficients are computed.[3]

The table below shows, first, zero-order correlation coefficients between quantity received per household under EP and OP (EPOP), MR, FFWP and VGD. All zero-order correlation coefficients are negative. (None of them is significant, though). The partial correlation coefficients (PCC) are all negative, too.[4] The PCC between MR and EPOP, controlling for FFW is -0.0007; PCC between MR and EPOP, controlling for VGD is -0.0002.

As pointed out in the footnote below, there is no overlap between these channels at the household level.

The evidence presented so far in the chapter suggests that the incidence of food subsidy/support programme as represented by these four channels appears to be inversely related to each other. Therefore, the problems of rural poverty that ought to be addressed by MR (in terms of direct conveyance of food support at subsidised prices) can not be achieved by FFW and/or VGD. This further means that reform of MR must take place in its own right. Regionalisation of the programming of food subsidies in MR,involving already accepted notions of regional prioritisation, is one important way in which to go about it. To this, we may now turn.

Table 5.1

Zero-order Correlation Coefficient Matrix

	MR	EPOP	FFW	VGD
MR	1.0	-0.0157	-.0028	-.0712
EPOP		1.0	-.0161	-.015
FFW			1.0	-.1003
VGD				1.0

5.2 Regionalisation of Distribution

The case for regionalisation of distribution of foodgrain rests on the equity argument.

To take up this argument, location and geography obviously matter in determining how households in fact relate themselves to the food system. And these relationships can exist on both supply and demand side of the food system. On the supply side, certain micro-regions or districts chronically chalk up food production deficits relative to requirement. This happens due either to poor yields or to low cropping intensity. Poor yields may stem from land infertility, crop-loss due to regular floods coupled with land erosion. They may also result from conpulsions to plant traditional varieties of paddy - which translate into low productivity. Cropping intensity may remain low because the character of the terrain. Location may adversely affect the quantity in which key agricultural inputs are supplied at the farm-gates, or the prices at which they are sold--both of which may likely dampens producers' return from farming.

On the demand side, location matters to poverty because access to product market is germinal in determining income levels. When income levels are low, they also are germinal in generating relatively low levels of derived demand for casual farm and non-farm labour--a source of great importance for landless households. Where access to product market is hampered as far as farm products are concerned, the same may apply also to rural industrial products. Opportunities for self-employment consequently become a casualty. In these circumstances, strong interactions exist between location,and household-level poverty, both through the demand and supply side.Consequently,location has been utilised as a focal variable in both the characterisation of

the problem of poverty in Bangladesh and in the design of the to-date most cited programmes for poverty alleviation in Bangladesh. As examples of the use of location in characterisation of the problem of poverty, one may cite the works of Currey (1978), Chowdhury (1984), Chowdhury et al (1986). All of these suggest that there is a geography of poverty and the resulting food-stress. As example of the use of territorial distress ranks as integral parts of an anti-poverty programme, one's attention may be drawn to the Ministry of Relief and Rehabilitation and WFP making use of the upazila-ranks in the determination of allocation of foodgrains under FFWP. All of this establishes that the poor households in poorer region represent the most intractable expression of poverty.

In a previous work, Chowdhury et al had made a case for geographical targetting of foodgrains being programmed into the modus operandi of MR. The results presented in the foregoing have reinforced our belief that Chowdhury et al's recommendation in this regard is still worthwhile adopting for implementation. The relevant recommendation is quoted below (italics omitted).

> "It is recommended that the allocational criterion of the MR be revised to include the following. The entire MR wheat allocation will be allotted to approved millers in pourashavas and in the unions who in turn would market the atta. Three sets of eligible MR beneficiaries are to be recognised, in order of their respective priority to be duly reflected in their "notional" entitlement per card per unit of time; namely (i) MR card holders in famine-prone upazilas; (ii) MR cardholders in non-famine-prone upazilas, and (iii) MR cardholders in pourashavas. The allocation of MR foodgrain, both wheat and rice, among these locational entities should be governed by the principle that an adult card in (i) should have the weight in terms of entitlement

1.25 times that of an adult card in (ii) and that a card in (iii) should have the weight of 0.67 that of (ii). The allocation of MR among districts should similarly be derived from a country-wide compilation of MR cards at issue in (i) famine-prone and non-famine-prone upazilas, and (ii) in poura- shavas, similar weights being applied. Rice in MR may be distributed among card holders through the medium of MR dealers, so long as rice is distributed." (What has been termed non-famine-prone upazilas by Chowdhury et al. 1986 are the better-or-average upazilas of this study. Famine-prone upazilas are those with relative distress levels of greater than one.)

We have to note however that the percentage lifted out of allotment by the representative chakki and MR dealer is somewhat lower than by paurashava dealers due to both chakki-owners (and MR dealers in unions) having to incur higher unit transport charges to carry grains from LSDs, while pourashava MR dealers are situated quite advantageously on this score.[5] The objective of the above recommendation is of course to influence supply on the ground and that is a matter, aside from what is allotted, of what is lifted out of the allotment. One has to do something about the lifting, as well as allotment. By doing something about the issue prices to chakki-owners and union MR dealers, in partial preference to pourashava dealers, it may be possible to do something about that. The idea about to be presented assumes that it is not advantageous to raise the overall levels of allotment under the monetised channels of the PFDS for budgetary as well as possible production-incentive reasons, and that it is not practically possible to phase SR out completely (which might have created some additional space for reforming MR). If MR activity is to remain about its current levels, to enhance significantly its effectiveness in terms of poverty targetting will in part require more effective geographical prioritisation of allotment,

coupled with price incentives in favour of "consumption" of MR grains in regions with desired stress conditions.

It is here proposed that issue prices of MR grains to be allotted to union level dealers and chakki-owners should be somewhat lower than for pourashava dealer. The rationale for this is provided by differential transport costs. A differential to the tune of 3-4%, to the advantage of union-level dealers and chakki-owners,is proposed.This is deemed sufficient to neutralise the differential transport costs. Note, however, that the union-level MR and atta-chakkis represent more than two-thirds of the overall MR activity. Because of the minor status of pourashava MR, the proposed price advantage would likely mean a larger unit budgetary subsidy in the MR overall. But this would only be so while the grain-mix is kept unchanged. We would however like to say that the mix ought to be changed as between the two classes of MR activity so that the status quo can, as far as possible, be maintained. For example, rice-to-wheat ratio in pourashava MR in 1986/87 was estimated to be 60:40, while that for union MR was 45:55. It is proposed here that pourashava allotment of rice-to-wheat should be 70:30, while that for union MR should be 30:70. Because the unit budgetary subsidy on wheat can, given the world and domestic prices of that commodity, plausibly be fixed somewhat higher than for rice, the greater relative share of wheat within union-level MR would likely, if not keep unchanged the average rate of subsidies, increase the overall rate very slightly. If, as is ikely to be the case, there are approved chakkis both within and without pourashavas, we would also propose that quantities to be allotted to those two types be determined in deference to a regionally-sensitive set of priorities. That is, approved chakkis located outside pourashavas in famine-prone upazilas should have the weight in terms of entitlement to allotment 1.25 times per adult equivalent card that of approved chakkis outside pourashavas non-famine-prone

upazilas. Atta-chakkis in pourashavas everhwhere should receive allotments 0.67 times per card that for average chakkis in non-famine prone upazilas. This scheme would take the principle of territorial prioritisation virtually as far as it can go. The number of cards for pourashavas and in the unions is available with the district food offices. The system can therefore be put together relatively easily.

Before going any further, we have to justify the "priority" and "discount" factors, of 1.25 and 0.67. The first is easily justified: average distress ranks of the thirty (of the forty-nine) new districts covered in this study is 1.23. (Of these forty-nine districts, nineteen are average or better-than-average districts.) To put a priority factor of 1.25 favouring worse-than-average districts/upazilas is appropriate.

The discount factor of 0.67 to the disadvantage of pourashavas does reflect our own judgement about the comparative degree of poverty in a representative pourashava as against rural areas in an average district. Employment opportunities, earnings, possibilities of self-employment for female and elderly (who cannot otherwise perform manual labour services) are usually larger in a (typically more populous) pourashava than on the land. With the accessibility of electricity, sewage, running or tubewell water, and the generalised importance that comes from residence in an electorally-important area, the residents of pourashavas enjoy better quality of life in general than villagers, even in an average district.[6]

One may wonder at this stage: isn't this multi-layered system going to be rather too complicated to be administered? Will significant costs have to be incurred in disseminating the relevant formulation of the system to the staff in the offices of the DOF at the district levels and below? And, finally,--and this

is an economic question--how is one to guarantee against a mismatch between the raised allotment (supply) of vulnerable regions and the ability of their residents -- especially poorer ones -- to be able to command purchasing power over the added supply? We take these considerations in that order.

First, the territorial prioritisation has to be done is an easy-to-understand way. Let us go over the details of such a formulation. The number of MR cards for famine-prone and non-famine-prone upazilas, as also pourashavas is available with the offices of the DC, Food. By using the following relation, it should be possible to compute total number of cards at issue for any given new districts:

$$C_{ij} = (c_d \times 1.25) + (c_{nd} \times 1.00) + (c_p \times .67)$$

$$i = 1, \ldots, 64; \; j = 1.2 \quad \ldots\ldots \quad (1)$$

where C_{ij} = No.of MR cards at issue normalised-for-distress in the i-th district for j-th ration commodity.

c_d = No. of MR cards in below-average upazilas in i-th districts.

c_{nd} = No. of MR cards in average or better upazilas in i-th district.

c_p = No. of MR cards in pourashavas in i-th district.

i = district subscripts, there being 64 new districts in Bangladesh.

j = rice and wheat.

This relation puts forward an allocation formula only; it cannot substitute for the determination of the quantities to be allotted in MR overall in the country. Once the latter is done through an administrative process, inter-district allocation simply involves the following relation:

$$a_{cj} = Q_j \div \sum C_j \qquad \ldots\ldots\ldots \qquad (2)$$

where a_{cj} = allotment to be made effective per "distress-normalised" card

Q_j = country-wide total allotment to be made for ration good j

C_j = Total number of distress-normalised MR cards

(Note that the subscript j in the summation above is redundant. It is retained nonetheless for symmetry).

Once a_{cj} is evaluated for rice or wheat for the country as a whole, district-level allocation will be suggested immediately because each district will have for it the C_j's.

The system will be quite simple to administer once the basic data that it relies upon are centralised in the headquarters of the DOF.[7] After one or two years of trial, the modus operandi of the system will be assimilated into the administrative culture of the DOF.

Consequently, no significant costs are likely to be incurred in disseminating the relevant formulation to the officials of the DOF on the ground--because the intra-district allocation of MR allotment will become a matter, simply, of the upazila-level number of distress-normalised MR cards, which already will have been prepared. Intra-upazila allocation of allotment can not however be calibrated according to regional-stress gradations. This is so because union-level gradation is not officially recognised as yet. In arriving at union-level allocation, upazila allocation may simply be prorated according to number of MR cards. This should be relatively simple to achieve.

The last question raised above is, in a sense, the most difficult one to answer. No one knows the answer, because the action at issue has not been taken before. A priori, it is possible to lighten the possibility of this happening, for the following reason. The principal effect of the territorial targetting is to lower cost of supply of ration foodgrains for the poorest households in the country. With ex-PFDS supplies on the increase as a result of regional reprioritisation proposed above, prices in poorer region will likely be lower, ceteris paribus, than in better-off regions. Becuase the poor are the more populous in vulnerable regions, and because the poor tend to have higher budget share of cereals than others, a given fall in the price of grains translates into a larger income effect for these households. They are thus able to command more foodgrain (and other final consumption goods). Ability to buy greater quantities of rationed grains by the inhabitants of poorer regions does not appear to us to be an intractable problem. At any rate, should this become a problem, this should be a verifiable problem -- as data on ratio of lifting to allotment by each of the three types of regions in every district would be easy to collect. Lifting-to-allotment ratios significantly lower than those currently

prevailing would indicate mismatch between demand and supply. We would certainly think that our recommendations should be tried on a pilot basis for a period of, say, two years. Verification of actual results during this period is here envisaged as input into fine tuning of the system.

Alternatives to MR

By alternatives to MR, we mean alternatives to MR in its conventional form, namely, distribution of grain in the form of wheat and rice primarily through the MR dealers in pourashavas and the unions. This system certainly wants a change, and the following paragraphs outline some of the elements of change. Before proceeding any further, the touchstone for what may pass for reform of MR has to be stated. A commodity with greater self-selection of the poor will reform MR. A form of distribution which increases the self-selection by the poor will reform it. Reprioritisation of poor regions at the expense of less-needy ones will reform it. A movement from general rationing to direct targetting at the poor households will reform it. These are the four touchstones. The case for regional reprioritisation has already been made, and modalities outlined. It remains to present the rationale and mechanisms of two possible extensions of MR.

Before coming to the two specific extensions, it may be apt to dispose of the case against an attempt to prop up conventional MR through, may be, the instrumentation of a more current and accurate DPL together with the institution of a greater degree of supervision by the DOF officials at the district level of the activities of MR dealers and union/pourashava elected officials. The case <u>for</u> such an attempt could have been made quite forcefully if the DPL was in fact found to be doing its job poorly or if the unit budgetary subsidy were at a high level or if there was a considerable underutilisation of the administrative

capacity of the DOF officials at the district level. It has been shown above that

a) the DPL is performing its job quite adequately namely of isolating the 50-60% of the households with the smallest land ownership in the villages. We have argued that househods' lack of ownership of land is bound to have a high degree of correspondence with overall indicators of poverty;

b) that unit budgetary subsidy on ration rice and wheat in all monetised channels of PFDS (including MR) has been heavily pared down more recently. Subsidy, in percentage terms, on rice works out at 17%; that on wheat works out at 11% in 1986/87. Between 1973/74 and 1986/87, the degree of reduction in the subsidisation works out at about 7% per year. Now that is certainly a high order of de-subsidisation, considering that one is talking about basic grains with quite high average budget shares. And yet there is no evidence as yet that per capita consumption of grain cereals by the poorest two quartiles, whether in urban or rural Bangladesh, have shown any decline at all, at least on the strength of the evidence of a number of Household Expenditure Surveys (HES).[8] Its precise causes need not detain us here. Only one major cause will be presented here. The eligibility to support under the monetised channels of the PFDS (i.e. SR, OP,EP,MR,LE and FM) has always been such as to render a very large share of the foodgrain channelised thereby off-limits to the poor.[9] This generalisation applies particularly to the MR. Hence the roll-back of the subsidies on ex-ration supply of foodgrains to the poor households did not adversely affect their consumption levels, because such supplies were virtually never very visible on their food balances.[10] To put it ratherly flat-footedly, MR was virtually never effective in directly purveying food subsidies to the poorest 50-60% of the rural households. Therefore, there would scarcely be a powerful equity argument to

want to raise budgetary subsidy in conventional MR. There may still be a case for wanting to raise slightly budgetary subsidy in a reformed MR, as we have already argued;

In addition to these two arguments, we may want to add a third. It is not believed that any considerable slack exists in the utilisation of the administrative capacity of district level DOF officials. Upazilaisation and the upgradation of sub-divisions into districts have created new positions in sub-divisional levels or below, thereby creating opportunities for promotion or for working on a higher level of responsibility (on "current-charge" basis) for many officials. Many of the current-charge incumbents might, in less hurried times, have performed the supervisory functions of MR. The case for an easy availability of DOF staff in the districts with the time to supervise MR activities more accountably can not be accepted lightly. Nor can the opportunity costs of any possible reorganisation of the work-routine of district level officials, so as to secure a more effective accountability of MR activities, be lightly brushed aside - for example, with regard to the timely coordination of the DOF's role in the FFW activity. (The poor are the most important beneficiary of this lastnoted activity.)

In the light of all these observations, we are against what we call a rejuvenation of a system - namely, conventional MR - which has a long track record of administrative inadequacy. Its rejuvenation will certainly be expensive. For one thing, the up-dating of the DPL is bound to take up a good deal of resources (the census of land ownership in every union, for example.).[11] Once the DPL can be put in place, the working of MR according to the letter of the law has to be constantly policed, and that will involve resources. In short, an "artificial resuscitation" of conventional MR is possible but the benefit-cost ratio of such MR

is bound to be low. This brings to the fore the case for other alternatives to it, including some reasonable extensions.

5.3.1 "Chakkisation" of MR Supplies

We believe that raising the percentage of the wheat in MR distributed through the approved chakkis--a process we call chakkisation for want of a more laconic term--represents a fine and wholesome innovation. As compared with conventional MR with respect to distribution of wheat, chakkisation offers the following advantages:

a) Chakkis have been seen in Chapter-4 to operate at significantly less than full capacity. Although supplies under MR represent a very small fraction of the quantity of wheat a representative chakki mills, chakki-owners would be quite happy to raise their levels of utilisation so as to spread overheads ever more thinly. Chakkisation,therefore,means greater likelihood of the wheat lifted in MR being milled locally than would be true were MR dealers to be the allottees. This last thesis owes to the fact that the ties of a MR dealer to the compulsion to local-area distribution are more tenuous than are those of the chakki-owner to localised milling. Whole wheat in sacks lends itself more conveniently and inexpensively than does atta to the circumstances of, say, inter-district haulage. Geographical targetting is easier to secure with the distribution of atta than with the distribution of wheat.

a) Even if conventional MR were working as intended, its modalities would have been ill-adapted to one key characteristic of poor households in rural area. Because the quantities are small and transport costs high, it is in the interest of both the dealers and the consumers to transact relatively large volumes each time a transaction takes place.[12] This is because fixed

costs of transactiocan are thus reduced. For many poor households, desired volume of purchase of wheat per transaction may come to between 10 and 15 seers. The cost of 10 seers of wheat may be about Tk.50. Many poor households can not afford to put Tk.50 in wheat stocks alone. The grain whose stocks are dearly wanted by the average poor rural household in Bangladesh is paddy/rice, not wheat. Tk. 50 is two days' male wages, and that is too much to be invested in the stocks of a less preferred grain especially when other non-cereal items have large budget shares, too. In essence, the distribution of wheat ideally in relatively large quantities once in a while adapts itself ill to the circumstances of virtually perennially cash-strapped rural poor households. The second point is that MR dealers will rarely extend a credit on sales of wheat, while many poor households doubtless have to rely on bazaar credit, especially on goods with large budget shares, to stabilise consumption. Where the financial ability to keep adequate food stocks is wanting for many poor households, rationing loses some of its natural advantages.

On this ground, chakkisation appears promising becuase, while the chakkis wholesale atta, the bazaar retailers sell in flexible quantities. Reliance on retail credit is also quite common in transactions at this level of the trade. Atta is available not just in the weekly hats. With intra-rural earthen roads becoming more and more common, village-level groceries are becoming more common, too. Consequently, poor people are frequently buying atta in quantities suited to daily needs. And doing so is commensurate with the availability of their means. Chakkisation suits such an institutional evolution of the market for atta quite well.

The third advantage in faovur of promoting chakkisation at the expense of conventional MR dealers is this. The chakki-owner deals in an essential commodity in a localised market. This is

also true, de jure, of MR dealers, but the available data and the perceptions of many knowledgeable people suggest that a major portion of the lifting of MR dealers is sold as whole wheat to the highest bidder in the open market. The highest bidders for wheat are usually found in the urban areas. A good part of MR dealers' lifting arguably is headed for major cities. Because of the greater significance to chakki-owner of what happens to prices and supplies locally, he should count for more than the MR dealer in governmental interventions that want to affect market and consumption behaviour in their microscopic dimentions.[13]

Now that the merit of chakkisation has been established to some satisfaction, we must address one major issue. Won't the already meagre unit budgetary subsidies, which ration prices now carry, run the risk of being eaten up by chakki-owners themselves out of profit-maximising compulsions ? If so, what would be the rationale of such a policy ?

This question brings to the fore the issue about the retail pricing of atta. More elaborately, this is a question of the level and variability of retail atta price, relative to coarse rice, as also of the proportionate spread between atta retail price and ex-issue price of wheat to chakkiwalas. The latter will tell us about the distributional costs on atta.

The following table (Table 5.2) presents level and variability of retail prices of coarse rice and atta in twenty old districts of Bangladesh. Two successive years with fundamentally different food price situation are contrasted here. 1985/86 was a year with soft prices, coarse rice prices having <u>fallen</u> by the order of 6% over 1984/85 level nominally. 1986/87 was a year with firmer prices. In both years, atta-chakkis received about the same proportionate share of total MR allotment of wheat.[14]

Table 5.2

Level and Variability of Retial Prices of Coarse rice and atta

Name of district	Course rice				Atta			
	1985/86		1986/87		1985/86		1986/87	
	Mean	CV	Mean	CV	Mean	CV	Mean	CV
Dhaka	8.18	4.33	9.75	6.61	6.62	3.64	7.36	3.45
Chittagong	8.28	4.07	9.82	7.26	6.11	6.31	7.10	2.59
Rajshahi	7.41	9.22	9.10	8.09	6.00	7.34	6.94	6.13
Khulna	7.44	5.90	9.46	7.46	5.95	3.89	6.84	2.95
Sylhet	7.84	5.76	8.95	5.12	5.72	3.26	6.90	3.62
Rangpur	7.73	7.29	8.91	7.59	5.89	4.80	6.64	4.95
Mymensingh	8.18	8.52	8.95	5.82	5.94	4.92	6.92	5.22
Jamalpur	8.09	7.10	9.59	8.16	5.68	7.73	6.65	8.32
Tangail	8.42	5.14	9.35	8.48	5.64	9.37	6.97	7.97
Faridpur	7.41	8.30	9.20	5.85	5.75	6.81	6.70	5.33
CHT	8.06	6.22	9.34	8.89	5.43	3.81	6.46	5.88
Noakhali	8.11	6.73	9.85	4.37	6.03	7.07	6.33	3.42
Comilla	8.21	7.78	9.66	6.01	6.58	8.93	7.31	3.40
Pabna	7.53	4.56	9.21	8.58	5.68	5.26	6.53	5.53
Bogra	7.13	6.84	8.66	8.53	5.47	5.47	6.49	6.73
Dinajpur	7.77	6.02	9.03	8.28	5.16	7.29	6.74	8.20
Kushtia	7.63	4.40	8.88	12.06	5.96	7.55	6.37	4.81
Jessore	7.94	5.35	9.77	9.23	5.84	4.11	6.58	7.63
Barisal	7.56	6.20	10.28	12.28	5.95	3.61	6.74	7.43
Patuakhali	8.08	9.43	9.90	12.71	5.40	8.17	6.68	7.62
All districts	7.85	6.4	9.38	6.7	5.87	6.9	6.76	6.10

Source: Data collected from Directorate of Agricultural Marketing, Dhaka.

Let us look first of all at some overall results. Coarse rice price rose from Tk. 7.85 in 1985/86 to Tk. 9.38--by 19.5%. During the same period, atta's price rose from Tk. 5.87 to Tk. 6.76--by 15%. That the percentage increase in rice price is higher than that for atta is especially true for some of the districts with some of the most vulnerable concentration of population. This is shown in Table 5.3. Except in Mymensingh, the increase for rice is greater for each of the other districts well-known for their proneness to food stress.

As far as variability over space is concerned. There is hardly anything to choose between coarse rice and atta, the coefficient of variation being between 6 and 7% in both years. Note however that in 1985/86, the CV for atta is higher than for rice, while the next year, the CV for atta is lower than for rice. In a year with soft price, consumers buy more of rice, thus shifting out of atta and dampening its prices. The higher variability, in a year of low absolute prices suggests subtle forms of consumer welfare being achieved. In a year with firm prices, higher variability is associated with relative price gains. Consumers lose when price varies more in space. It is significant that as prices turn firm and rise, atta holds itself up well on the ground of spatial variability.

Now we come to distributional cost of atta. Ex-ration wheat price in 1986/87 has been Tk. 4.62 per seer. Percentage spread between this price and estimated retail price at district level is one of 46%.[15] As such, gross costs of distribution in atta relative to ex-PFDS is no more than 46%. By all means, this order of overall distribution costs is quite reasonable and clearly suggestive of competitive pricing.[16]

Table 5.3

Proportionale Increase in Rice and Atta Prices, 1985/86, 1986/87

	% Increase		Coefficient of variation			
			1985/86		1986/87	
	Rice	Atta	Rice	Atta	Rice	Atta
Rangpur	15.8	12.7	7.29	4.80	7.59	4.95
Faridpur	16.5	24.2	8.30	6.81	5.85	5.33
Pabna	14.9	22.3	4.56	5.26	8.58	5.53
Mymen-singh	16.5	9.4	8.52	4.92	5.82	5.22
Jamalpur	17.1	18.5	7.10	7.73	8.15	8.32
Bogra	18.6	21.4	6.84	5.47	8.53	6.73

Source: Table 5.2 .

This pricing behaviour in atta market has to be seen in the context that chakkis receive no more than about 1-2 per cent of the wheat they mill from MR. A major part of wheat they mill is bought from private wheat market. Were MR dealers to be phased completely out of MR, relative importance of PFDS vis-a-vis the chakkis as a source of grain is estimated to rise to about 5%. It is not self-evident that such a minor change should fundamentally alter the price behaviour of the chakkis. Unless there are disruptions of supply of rice and wheat of a national proportion (which may, by creating perceptions of fundamental uncertainties in the minds of the traders, reallocate traders' stock in favour of future sales), it is plausible to argue that a complete phase-out of the dealers from the distribution of wheat in MR is unlikely to abolish competitive pricing of atta chakki.

We recommend that all of the MR allotment of wheat be marketed through atta chakkis, and that only rice in MR be mediated by MR dealers.

What is to be done when a disruption of a national proportion intervenes ? Such disruptions would have as their main result a drifting apart of the market from ration prices. MR dealers have, it can safely be said, taken advantage of such disruptions by diverting supplies to the market. It has to be conceded that when major changes in price relatives take place, chakki owners may, too, take advantage of the situation. We recommend in principle that one of the effective ways in which this can be dealt with is through Open Market Sales (OMS). The case under discussion here is one for ensuring that prices do not get destabilised beyond a tolerable band. But this discussion must take place within the general rubric of price stabilisation. One should not mix-up goals of public food market interventions

that are concerned with levels of prices with goals that are concerned with stabilisation of prices. These two should be deemed functionally separate goals, although over time they may overlap. Hence, these should be tackled through separate instruments. We recommend that OMS be adopted as the price stabilisation instrument. Even currently, of course the de jure coverage of OMS is countrywide. However, it is widely perceived that the coverage of OMS tends to be unequal spatially. And of course important practical problems remain to be solved in the running of OMS. It is beyond the scope of this report to dilate on how to fix all of the problems. We are convinced however that chakkisation coupled with the fine tuning of the OMS in rural areas in particular together composes a more decentralised and effective intervention in rural food market so as to ensure availability of wheat/atta in the quantities and at prices that are competitively determined.

5.3.2 An Alternative Means of Delivering Food

The essence of this proposed alternative stems from the recognition that some non-governmental organisations of Bangladesh have successfully organised the participation of the poor in production, forged cost-effective delivery and receiving mechanisms for credit, developed a cohesive and conscientised body of the poor aware of their potential as well as their deprivation, and therefore ready to impose on them the necessary self-discipline.[17] GB has already built an infrastructure of support personnel, group leaders who are in regular weekly contact with people in villages whose land-ownership (of upto 0.50 acres) puts them in the 'A' category mainly. The idea is to utilise GB as an additional channel of subsidised foodgrains for households in villages with upto, say, 0.50 acre of land. We proposed that a pilot project, to be called Grameen Bank Food Distribution Project, be undertaken for three years.

The objective of the scheme will be to test the feasibility of using GB as an institutional intermediary distributing subsidised foodgrains among poor households on behalf of the Government of Bangladesh.

The scheme may feature the following ingredients:

a) A Charter of Rights and Obligations involving the Food Division and GB will have to be defined;

b) GB's involvement in the scheme will be self-contained in the personna of a GB Food Distribution Unit. Any other activities or administrative compone . of GB will not be a party to, and will therefore remain ext. . judice to, the matters of governmental supervision and auditting of the activities of this Unit.

c) Four districts where GB has worked for at least five years be selected for this project. At the outset, GB field cadre, to be created and retained by FDU, will, with consultation with the elected UP officials, draw up a list of, as also prepare a count of members in, the households in any given union with upto 0.50 acre of land. Frequently, it will be that many households to be thus listed are already among the clients of GB's credit unit. These client households may no doubt provide further insider-account of the true land-ownership status of non-GB-client houncholds;

d) Enumeration of population in households with upto 0.50 acres of land, both clients of GB or not, will, together with MR allotment rules per card per year (i.e. 104 kgs per adult-equivalent card), gives a basis for overall allocation of foodgrains to these four districts. (During the period of the pilot project,

conventional MR may be discontinued in these four districts, although distribution of wheat through approved chakkis would continue.);

e) The GB would be issued wheat at wholesale issue price subject to the preferential treatment suggested above for rural MR deliveries. Because FDU would assume responsibility for distribution in a whole district, economies of scale in transportation and distribution may present themselves. And yet these may not have been available to MR dealers, charged with distributing a handful of maunds of rice and wheat in just one union. (Certainly, the extent of economies to be had from such an institutionalisation of distribution will vary according to the state of infrastructure, and availability and choice of transport vehicles. The potential for economies to be reaped will certainly exist).

Grameen Bank's FDU offices in four districts will have to initiate a programme of sales of foodgrain in particular hats at fixed intervals. Advantage may be taken of the fact that different unions convene their hats on different days of the week. It may thus be possible to cover beneficiaries in various unions of the district. Sales schedule must be rigidly adhered by FDU staff at all cost. If this is done, objective uncertainties by beneficiaries about the frequency of distribution will be reduced. This will encourage utilisation by potential beneficiaries of the proposed system.

The advantage of the proposed alternative is that it will make use of an already available infrastructure of implementation, created in the context of accountable delivery of credit for the poor, for the purpose of delivering food support for them. The imperative of accountability is as compelling in the context of reaching credit, as of reaching foodgrain.

Of course, the idea will represent on extension of the province of GB. The case for such an extension is logically tenable. Poverty alleviation need not, indeed must not, be confined to the provision of credit, which has to do with income generation. It needs to include how the poor spend their income in buying essentials. Hence some extension of the activities of GB can be logically argued. What better way to extend them than to bring subsidised food at fixed interval to the poor?

Footnote

1. Two channels of the PFDS can be said to overlap when they each is seen to benefit people in similar economic classes in the same regions or territorial chategories. For example, when MR, VGDP and FFWP have a clear tendency of coincident impact upon the food supplies at, say, upazila level, the upazila food system could be said to harbour an overlap in public food distribution, in space. The existence of positive second-order correlation coefficients (CC) would have indicated the presence of overlap. Negative coefficients show the opposite effect, namely that supplies from MR on the one hand and VGD and FFWP disaggregate rather than congregate. Second-order rather than first-order correlation coefficients are computed here, because simultaneous association between VGD and FFWP needs to be controlled for. Just to be above one's possible criticism, first-order correlation coefficients are presented, too.

2. District-level regression results, presented earlier, strongly suggested that, at least, there was no overlap between MR activity at the district level on the one hand, and each of FFW, VGD and EPOP activities on the other. This is because each of the coefficients of these independent variables on the MR offtake function was negative. This evidence is consistent with the position of there being no significant overlap between MR offtake per card at the district level, and the relative levels of activities of the other channels cited.

3. IF and GR were excluded from the computation.

4. The values of partial correlation coefficients are extremely small. The formula for PCC is $r_{12.3} = (r_{12} - r_{13} \cdot r_{23}) / (\sqrt{1-r^2_{13}} \times \sqrt{1-r^2_{23}})$ where $r_{12.3}$ represents PCC between, say, variable X_1 and X_2, controlling for X_3, r_{ij} is zero-order CC between ith and j-th variable, and r^2_{ij} is the coefficient of multiple determination, i.e. the R^2 familiar in regression. The estimates of PCC in fact suggest the insignificance of the association between these variables. That the coefficient sign in every case examined is negative suggests that overlap really does not take place. Only two estimates of PCC are presented. The others have not been presented: but each of the other is negative and insignificant, quantitatively. The hypothesis of the absence of any overlap can not be accepted, although it cannot be rejected either.

5. Unit transportation cost per maund-mile depends upon the state of infrastructure and the availability of mechanised means of transports. If, for example, a dealer can transport grains by trucks, cost per maund-mile may be as low as Tk.5. On cyclevan- a frequent mode of transports on roads connecting upazila head-quaters with unions -- cost per maund mile can be two times as time as much. On head-load, cost per maund-mile can be four times as much. It is reasonable to suppose that MR dealers in pourashavas use trucks to transport grains from LSDs (frequently located within pourashava limits) to their shops. Dealers in the unions have on the other hand to transport on cycle-vans and/or on head-loads. Differential unit transport cost per maund must be taken into account in explaining differential lifting-to-allotment ratio.

6. These priority or discount factors are decidedly somewhat qualitative and subjective. Their primary function is to suggest orders of relative priority or the lack of it as one forges a subsidy-targetting instrument which is sensitive to the geography of poverty. They may of course require fine tuning in the light of experience.

7. The DOF head quarters in Dhaka will then, as now, hand down district allocation of MR allotment. The only difference will lie in that, while, at present, allocation is made on the basis of merely number of cards, it will be made using distress-normalised number of cards.

8. We have examined the data from HES for 1973/4, 1981/82, 1983/84 and 1985/86. Consumption per capita of rice/rice flour and wheat flour for these four years were compared. Of course, important methodological difference may arguably set the results of 1985/86 somewhat apart from those from the others. The results from the other HES cannot be said to be very significantly different in their methodological orientation. They clearly sustain the conclusion that consumption of cereal has in fact risen somewhat as between 1973/74 and 1983/4 -- despite a very steep decline in the subsidisation of grains in PFDS.

9. For SR, this has been documented by Chowdhury (1987) and by Abdullah and Murshid (1986). The eligibility to EP and OP is such as to secure such an effect, ex definitione.

10. Of course, MR activity augments market availability of cheaper grains and thereby results in lower prices than otherwise would likely prevail. To this extent, of course, MR (or, for that matter, any other monetised channel) carries in its wake consumption benefits. These benefits are, however, not material to the argument in the text. As we shall see, these benefits are quite material to a suggested extension made of the system of MR.

11. The last census of agriculture was in 1983/4 -- and already quite dated.

12. MR dealers lift monthly, and it may be supposed that they sell once a month, usually on a hat-day. Of course, in the hat, the dealer is free to sell in flexible quantities. The typical quantities that households may want to buy represent fifteen days' requirements. In practice, short quantities dictate quantity restrictions by the MR dealers. Even so, households are required to buy several days' requirements of wheat because chakkis do not welcome the custom-milling of very small quantities of wheat from a given customer, but also because the chakki may not be located in the same hat and more distant.

13. The fourth advantage of the chakkis lies in their (rural) industrial character. However modestly, they make a contribution to industrialisation in the countryside, to add to diversification of rural economy, create new opportunities of surplus accumulation by the rural people.

14. In 1986/87, the atta-chakki's percentage of wheat as against total MR wheat allocation came to 20%.

15. This is thus calculated: (6.76-4.62)/4.80 = .461.

16. A study of marketing costs and margins of eight agricultural commodities -- aman rice, lentils, potato, banana, poultry, hen egg, beef meat, potato from cold storage - was conducted in 1984/85 (Maziruddin, 1985). The data used in it related to 1983/84. Except two -- aman rice and lentils -- overall marketing costs on each of the other six significantly exceeded those on atta. Distributional costs on aman rice was estimated at 35%, and those on lentil at 36%. Maziruddin's costs were computed such that terminal market in every case was Dhaka. Dhaka is the locus of the best network of highways in Dhaka, and traders frequently tend to ship large volumes, thus ensuring scale economies in transport- ation. The difference with the atta situation should be obvious. Quantities issued to chakkis from PFDS tend to be quite small (Chapter 4). Intra-district transportation systems are rudimentary and ill-maintained at that. Non-mechanised transports, including headloads and boats, are common. Transport costs thus tend to be higher. As such, there is little to choose between distributional costs of aman rice and lentils over those on atta.

17. We have here in mind NGO's like the Grameen Bank, BRAC, Proshika etc. Togehter, these groups have demonstrated the feasibility of cost-effectively delivering and receiving resources vital for the socio-economic cooontinuity of the poor as a groups. Grameen Bank(GB) has been perhaps the largest and most researched of these NGO's See Hossain, 1988. It has held up

pretty favourably under scholarly scrutiny with respect to impact of the poor's welfare, recovery of credit, replicability, dynamic adjustments,etc. In the following paragraphs, GB is taken as representing the genre of NGO's.

Chapter 6

Distribution Priority List (DPL)

6.1 Background

Since resources at the disposal of the government were scarce and inadequate to meet the entire demand for subsidized food, government prepared a distribution priority list (DPL) to be followed as a guideline in distribution of MR. In preparation of the DPL, the beneficiary households have been classified under various categories namely 'A', 'B', 'C', and 'D' on the basis of the chowkidari tax they pay. The level of chowkidari tax was considered as an index of the economic status a household belongs to. As discussed earlier (Chapter 2), households categorised under 'A' and 'B' only are entitled to cereal ration and those under C and D to non-cereal rations.

Our field survey reveals that number of households issued ration cards fall far short of the number belong to each category. As stated earlier, the total number of households having MR cards constitutes only 17.61% of the total, wheareas households who belong to 'A'category alone constitutes 24.36%, not to speak of other categories. Thus, the UP authorities have to make a mini DPL every time they have a fresh allotment to decide upon the number and exact households to be accomodated each time.

It bears mention at the outset in this chapter that the DPL is, despite its datedness, a reasonably sensitive instrument. It can be made somewhat more sensitive, but at the cost of carrying out a country-wide land-ownership ascertainment using a

standardised methodology. This latter is bound to be an expensive exercise. Other things remaining the same, this may increase the potential of the proper selection of the poor somewhat but surely not by a great deal. This is because existing system of classification in DPL is quite adequate, and because deliberate misclassification does not have a conspicuous presence. Consequently, our treatment of the subject of a methodology of a more accurate DPL is made proportionate to the low intrinsic merit of an elaborate exercise.

In the following sub-section, we present the criteria followed in preparation of the DPL.

6.2 Criteria Followed in the Prepartion of DPL

DPL is prepared on the basis of the chowkidari tax paid by a household. Chowkidari tax is a tax imposed by and payable to the local UP to supplement its resources that are drawn mainly of the Government grant. Households who do not pay any chowkidari tax are categorised under 'A' and those who pay upto Tk.10 are put under category 'B'. Categories 'C' and 'D' are those who pay tax between Tk.11 and 20, and Tk.21 or more, respectively. (In some unions, tax cut-offs are somewhat different from the above. But the point is that in all unions, A and B categories did manage to sort out household with no or little land in their ownership.)

In the month of May every year, the UP authority prepares its budget for the next financial year. Normally, a certain percentage of the total expenditure is raised internally and the UP members are asked to distribute the tax burden in their locality. Following some rule of thumbs and a notional ability to pay theory, the members decide who would be exempted from paying tax and the annual amount of tax a household would be liable to pay.

More often than not, the members take the help of local chowkidars in deciding the existing level of the ability to pay tax by a household.

It has been shown elsewhere that in many unions, the DPLs now officially followed are rather outdated (Chowdhury et al, 1986). The most recent ones were prepared in 1983/84 and since then there has been no updating. UP assistants have agreed in private that in some cases, the basis of original categorisation have changed since then and some 25-30% of the households no longer belong to the original categories they were grouped in. It is, of course, a matter of common sense that no lumsum tax can represent ability to pay over time in the face of inflation and also in the face of changing per capita real income. Without entering into the question of refinement in the procedure and accepting the rule of thumb as it is, we may question ourselves what is the basic difference between two households - one that was exempted from tax and the other who paid Tk.1 only per annum. According to the existing DPL, the former will be entitled to 'A' class ration card and the latter to a 'B' class. It is our considered view that in most cases, such differentiation will be a matter of judgement without much practical sense in respect of ability to pay. Again, a person who was genuinely categorised say, under 'C' (or D) 5 years earlier, and had no tax revision since then, he would be paying less now in real terms, if we consider nothing other than inflation. The tax payer's real income has been reduced due to inflation, and so has the tax amount. But he remained in the same category as before.

Having said this, we may now look at the criteria followed in fixing chowkidari tax. In a rural agricultural society like Bangladesh, one of the best criteria to judge the economic status is to look at the levl of landholding by the households. Although, landholding is not the only measure of income, it is nonetheless

the most decisive means of income to the largest proportion of the households living in the rural areas. If DPL appears to have taken this into account, then we can conclude that it has reflected one of the best available criteria of judgement. Table 6.1 presents the percentage distribution of households by land-ownership and chowkidari tax payment. It is interesting to note that almost 94% of those categorised in 'A' and over 85% of those in 'B' belong to the landless group (defined as having land from zero to 0.50 acre). This is a clear indication that the DPL, is doing its job quite nicely.

Defining 'B' category as those paying chowkidari tax upto Tk.10.00 we may reach the same conclusion as above. Out of 44.5% of the total households in 'B' category, 25.69% belong to land-less class and 8.79% to the marginal farmers class having land from 0.51 to 1.00 acre only. Thus, about 78%, of the households in 'B' class belong to either landless class (58%) or marginal farmer class (20%).

An advatage with chowkidari tax based DPL is that the number included in 'A' or 'B' could be kept to minimum. On the other hand, if DPL were based on landholding alone, then the 'A' category households (landless) would have been over 54% of the total households as against 24.36% under the present system. In other rds introducing the criteria of chowkidari tax payment was helpful in sorting out the poorest half or so of the population, from the rest. It appears that the criteria, though based on a rule of thumb, has worked quite well especially in consideration of the fact that the preparation of the manual has cost almost nothing.

6.3 Updating of D.F. List

As mentioned earlier,the existing DPL is quite dated and therefore, to better reflect the relative ability to pay tax, it needs to be updated. We have seen, however, that despite its datedness, it represents the relatively poorer section of the community and serving its purpose quite fairly well. Proper updating of the DPL desired as it is, would involve enormous cost in identifying the land ownership class a household belongs to or the annual per capita real income a household is likely to earn. It is important to make it clear that to say, for instance, landless households represent 50% of the total is not as difficult as to identify the individual households who constitute this 50%. It is this latter identification which is required for updating the DPL.

Thus, the proper updating would require nothing less than a house to house census either on agricultural land ownership or on household income. Whether such a big exercise is worthwhile is one thing and whether such information would be forthcoming as accurately as is required for a proper updating is another vital question. In view of the declining coverage of MR over last few years, one wonders whether such big involvement would be of high priority. Nevertheless, perhaps the DOF can obtain these information through Bangladesh Bureau of Statistics (BBS). The BBS, in turn can incorporate the requisite questionnaire in their next household survey and/or the agricultural census.

The next question to ponder over is the source of such information as the exact quantity of land owned and operated by an individual household. Frequently, the existing documents of land are in the name of someone who is either dead or transferred his

ownership. Seldom any inheritence or transfer of land is mutated and recorded afresh in the name of the new owner. Inherited lands in most cases, continue to be in the names of forefathers and very rarely the shareholders care to have the land recorded in their own names. Sometimes, this carelessness is intended since the mutation may lead to deprivation of the right of pre-emption by any shareholders when any other share- holders wants to sell from his share. Another advantage of keeping together is that they can pay together or even less the land taxes or such taxes that are collected along with land taxes such as education tax or irrigation tax.

There are other reasons too, why mutation is not intended.

i) It is costly and sometime cumbersome;

ii) Most households are uneducated and not familiar with the procedure of doing so;

iii) Relatively well to do households find it to their advantage to keep together, since this provide them with the opportunity to borrow from institutional sources more than they could do otherwise.

Whatever may be the reason, the fact is that the records of ownership are not uptodate and presentable on demand. This will make the census highly dependent on what the local people, the household himself or at best the local UP member would say about his possessions. Thus, the census, will not make any better basis for the DPL than what we have at the moment. It is, therefore, suggested that instead of trying for a new basis, the DPL may be updated based on the level of chowkidari tax payment as was originally prepared. The terms of reference of the updating should specifically mention that:

i) the chowkidari tax payment remains as the criteria for the DPL;

ii) the DPL should be revised every year; the period of revision should be immediately before the preparation of the annual budget;

iii) the level of exemption and the levels of payment should be revised every year keeping in view the level of landholding, level of earnings, rate of inflation, the rate of subsidy and the amount available for distribution.

In our view, the existing UP machinery is capable of updating the DPL as they prepared it originally. It will not involve any additional cost and will do deliver as good results as an elaborately-put-together exercise.

6.4 Summary

In this chapter, we have discussed the existing criteria followed in preparation of the DPL and presented our summary findings as regards representativeness of the present criteria. It was found that the existing DPL, although prepared on the basis of the chowkidari tax payment. reflected the level of poverty measured in terms of the level of landholding. Thus, it was concluded that the existing DPL was functioning well despite its datedness. It was further concluded that the updating of the DPL is desirable to make necessary omission and commission in view of the circumstancial changes only. The chowkidari tax payment as the basis was doing well in deciding whether a household should be classified as 'A', 'B' or 'C'. The level of exemption as well as payment may be revised.

Level of landholding may provide a better indication to the level of poverty and therefore to the eligibility for MR but it was considered too costly keeping in view the limited coverage of MR in the recent past and also because a full fledged census may not provide us with more reliable information than we have.

Table 6.1

Percentage Distribution of Households by Land-ownership and Chowkidari Tax Payment

Land Ownership (in acre)	Chowkidari Tax Paid by Households in Tk. 0	1-3	4-10	11 & above	Total
0.0-0.50	41.85 (22.72)	7.31 (3.97)	37.02 (21.72)	10.82 (5.88)	100 (54.29)
0.51-1.00	7.21 (0.98)	3.31 (0.45)	61.26 (8.34)	28.22 (3.84)	100 (13.61)
1.01-2.50	3.16 (0.51)	1.15 (0.18)	47.39 (7.66)	48.30 (7.80)	100 (16.16)
2.51 and over	0.94 (.15)	0.37 (.06)	13.25 (2.11)	85.44 (13.62)	100 (15.94)
Total	(24.36)	(4.66)	(39.83)	(31.15)	(100)

* Figures in the parentheses indicate percentage of the total household.

Source: Beacon Field Survey, 1987.

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