

PN-AAAQ-057
ISN= 34730

Judy Salure

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FOOD FOR WORK

**an evaluation
of the primary
and secondary
effects**

**INSTITUTE OF NUTRITION AND FOOD SCIENCE
University of Dacca**

Food for Work

An Evaluation of the Primary and Secondary Effects

**Institute of Nutrition and Food Science
University of Dacca**

September. 1981

**Incharge of Publication B. K. Guha
for the Institute of Nutrition & Food Science**

**Printed by
Modhumita Printing & Packaging
163/A. Motijheel C/A..
Dacca.**

FOREWORD

The Food for Work Program has been operative in Bangladesh since 1975. It is a program whose aim is to create employment for the hundreds of thousands of unemployed in the rural areas, and to assist with the creation of infrastructure to bolster further development efforts. Apprehension has been expressed from time to time that there may be serious leakages in the system, and that the food to be disbursed to the labourers does not reach the intended beneficiaries in its full quota. It was considered important to ascertain what people in the rural areas, people who are most concerned with the program, think about it, with particular reference to its production effects, employment effects, and marketing effects, through an opinion survey.

Our findings indicate that the total allotment of food aid does not reach the beneficiary labourers, as some of the allocated food is used to absorb unaccounted costs and charges accruing to the program, such as carrying charges, compensation for other people's time and attention, etc. We have also concluded that the Food for Work Program increases local production through its development effect, and that it creates employment and facilitates the marketing of agricultural products. We were pleasantly surprised to discover that the productivity of our labour force is appreciably higher than had been previously assumed.

There is no doubt in our minds that in spite of leakages, the program is of very real benefit to the poorest segment of our population. We also believe that there is room for improvement in the management of the program-and that the concerned authorities will take appropriate measures to ensure such improvement.

Kamal Ahmad
Director
Institute of Nutrition and Food Science
University of Dacca

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PREFACE

The Food For Work Program (FFWP) came into existence to provide relief and employment to the unemployed and underemployed rural poor. Creation of public utilities is a useful by-product. This study was aimed at evaluating the primary effects of the FFWP. An opinion survey to determine the secondary effects was however also included at the request of the Ministry of Relief and Rehabilitation. The study was supported by the USAID mission in Dacca.

The study was conducted under the supervision and guidance of Dr. Kamaluddin Ahmad, Director of the Institute of Nutrition and Food Science of the University of Dacca. The cooperation extended by Messrs George Wood, Peter Downs, Stephen French and G. Kabir, all of USAID, is gratefully acknowledged. Dr. H. S. Plunkett of the USAID provided useful suggestions.

No word of praise is too high for the members of the project who did their very best. Akhtaruz-zaman can be singled out for his untiring efforts, in his dual role of Secretary and Accountant.

Manjur Majid

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- P. 32 — Table 14—line 5 from bottom column 6—'86.42'
- P. 32 — Last line column 3—'0.7'
- P. 32 — Last line column 6—'85.09'
- P. 33 — Table 15 last line, column 4—'4, 593'
- P. 33 — Table 15 row 10, column 3—'20!2636'
- P. 34 — Table 16—'%' under the days
- P. 36 — Table 19 column 9—'stopped by'
- P. 38 — Table 21, row 3, column 4—'32.69'
- P. 38 — Table 21—Double line to reparate NE zone
- P. 38 — Table 21—column 4, 5th row from bottom '0' in place of '5.13'
- P. 38 — Table 21—column 5, 5th row from bottom, '5.13'
- P. 39 — Table 22—column 1, row 5, 'Embankment'
- P. 39 — Table 22—column 1, row 6, 'Canal'
- P. 39 — Table 23—column 2, row 7, '7.72'
- P. 39 — Table 23—column 2, row 10, '11.27'
- P. 39 — Table 23—column 1, row 17, 'Alamdanga'
- P. 39 — Table 23—column 2, row 17, '5.33'
- P. 39 — Table 23—column 3, row 17, '3.74'
- P. 39 — Table 23—column 3, row 16, '5.07'
- P. 40 — Line 3—'Statistically'
- P. 40 — Line 9—'is'
- P. 40 — Line 9—'basis'
- P. 41 — Line 7—from the bottom—'determining'
- P. 40 — Line 2 from the bottom—'anyway'
- P. 42 — Table 25—Add line at the bottom of the table—'All—40.27—43.69'
- P. 43 — Line 10 from the bottom—'employment''
- P. 44 — Table heading—'Table 25a—Creation of Employment''.
- P. 49 — Line 4—'accruing''
- P. 49 — Line 11—'percent''
- P. 51 — Line 1—'specified''
- P. 51 — Line 2—'facilitating''
- P. 51 — Line 5—'embankments''
- P. 51 — Line 7—'were''
- P. 51 — Line 12—'higher''
- P. 52 — Line 1—capital 'F' for 'food'
- P. 52 — Line 1—capital 'W' for 'work'
- P. 52 — Line 9—'factors'
- P. 52 — Line 32—'distributions'
- P. 52 — Line 34—small 'm' for 'may'
- P. 52 — Line 40—'in' after 'is'.
- P. 53 — Line 4—'whcic''
- P. 53 — Line 12 from the bottom—small 'p' for 'publicized'
- P. 53 — Line 15 from the bottom—'undertaken''
- P. 53 — Line 16 from the bottom—'earthwork''.

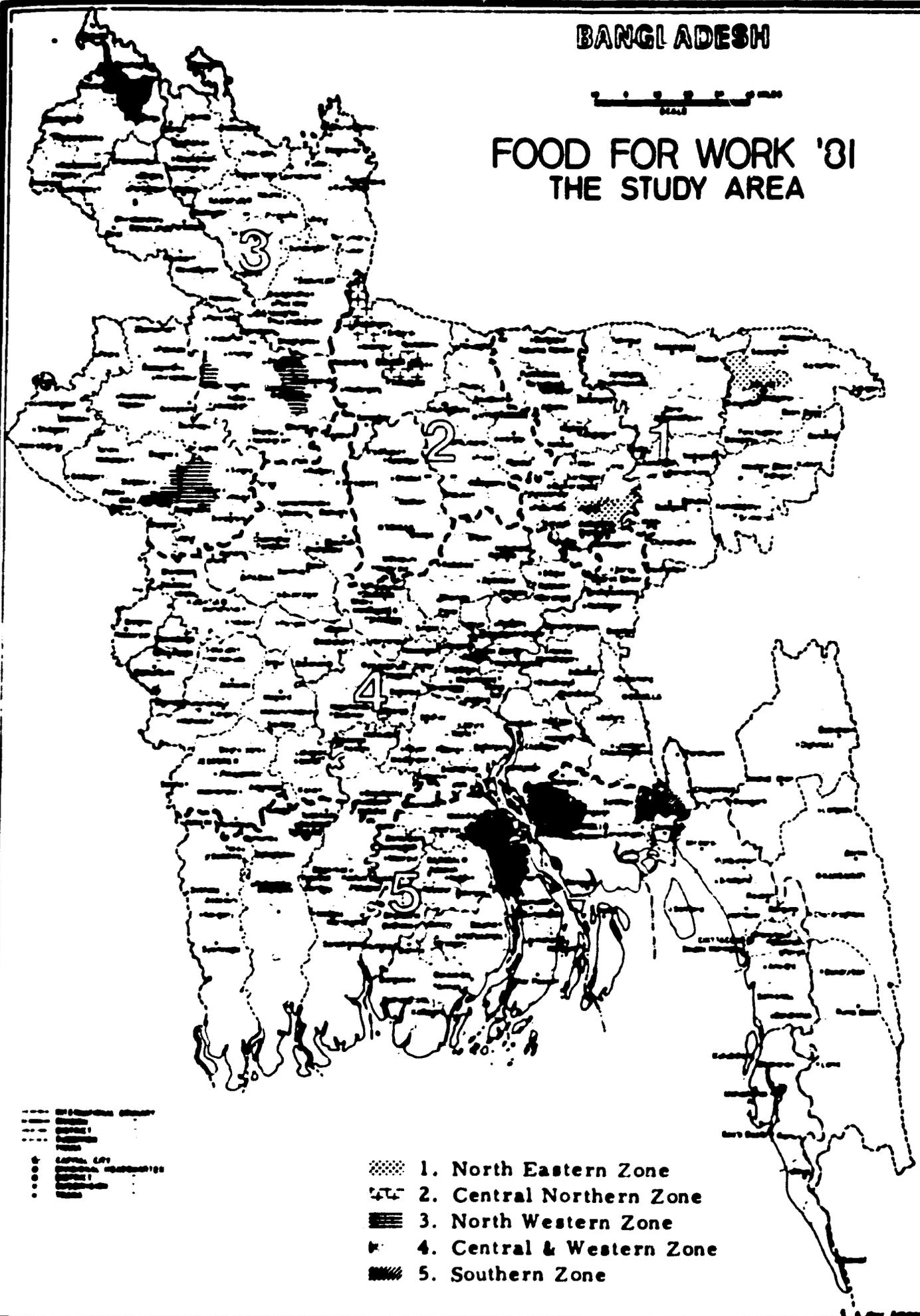
ERRATA

- P. 2 — Line 9, asterisk denoting footnote after 'distributions'.
P. 2 — Footnote—'86 distributions at 26 sites were actually observed. Among them 13 distributions at 5 sites did not report measurement of earthwork.'
P. 4 — Line 3, 'the' instead of 'tha'.
P. 4 — Line 7, "evaluation"
P. 6 — Line 20, delete 'the' after 'study'
P. 6 — Line 10, 'zone'
P. 7 — Line 1, 'originally'
P. 7 — Line 36, capital 'R' for 'Research'
P. 8 — Line 27, Full stop after 'sample'
P. 10 — Para 2, line 1—'918'
P. 10 — Footnote—line 1—'was' instead of 'were' after 'projects'
P. 11 — Line 23, Full stop after 'project'.
P. 11 — Line 25, 'of' after 'district'
P. 11 — Footnote—"than"
P. 12 — Line 3 delete "all"
P. 12 — Footnote **—"local"
P. 13 — Para 1 & 2 will merge to form a single paragraph
P. 13 — Line 6—"people"
P. 13 — Line 6—capital 'P' for 'Project'
P. 13 — Line 8—"running"
P. 13 — Line 27—delete 'e' in 'pedestrians'
P. 13 — Line 36—"Canal"
P. 14 — Line 35—delete 's' in 'projects'
P. 15 — Line 2—Capital 'V' in 'Velumia'
P. 15 — Line 3—Capital 'P' in 'Patuakhali'
P. 15 — Table 2, line 4 from the bottom, column 4—"202"
P. 16 — Para 1, line 1, Capital 'T' for 'the'
P. 16 — Table 3, last line, final column—"32.65", instead of '62.65'.
P. 17 — Table heading, column 5—"than"
P. 18 — Para 2, line 3—"the"
P. 18 — Para 5, line 1—"Natore"
P. 18 — Para 8, line 1—"Labourers"
P. 19 — Column 5,—"experience"
P. 19 — Column 6,—"average years of experience"
P. 21 — Line 1—"Project"
P. 24 — Para 1, line 1—small 'p' for "percentage"
P. 24 — Para 3 line 2—"Akkelpur", "Noakhali"
P. 24 — Para 5, line 1—"62"
P. 25 — Para 2, line 5—"than"
P. 32 — Table 13—line 5 from bottom, column 2—"117"
P. 32 — Table 13—last line column 4—"4.56"
P. 32 — Table 13—last line column 5—"9.77"
P. 32 — Table 13—last line column 6—"85.00"
P. 32 — Table 14—line 5 from bottom column 3—"0.57"

BANGLADESH



FOOD FOR WORK '81 THE STUDY AREA



- District Boundary
- National Highway
- Major Road
- Capital City
- District Headquarters
- Town

- ▨ 1. North Eastern Zone
- ▨ 2. Central Northern Zone
- ▨ 3. North Western Zone
- ▨ 4. Central & Western Zone
- ▨ 5. Southern Zone

EXECUTIVE SUMMARY

A random survey of 42 sites in all regions of Bangladesh, interviewing 2308 workers and observing a total of 86 wheat distributions.

The average food for work labourer is 30.8 years of age.

Only 6 percent of the Food For Work Program (FFWP) labourers are migrants. A migrant worker was one who had come to work in a project from another thana.

Sixty seven percent of the labourers have worked in FFWP before. The average period of experience is 3 years.

On an average there are twelve workers in each gang. Invariably twenty are recorded on official rolls, however.

More than 53 percent of the workers are hired by project committees. The rest are brought in by gang leaders and contractors.

Payment is mostly made in wheat, rather than cash.

Payment is made to gang leaders, who in turn make payments to the workers.

Workers who cannot say when they will next be paid, and those who say that payment is not likely to be made on the given date are considered to have felt that distribution was not made at regular intervals. Nearly 62 percent of the workers feel that distribution of wheat is irregular, or unpredictable.

Only 17 percent of the workers know about additional factors as basis for adjustment of payments.

Only 8.5 percent of the sampled workers got paid for additional factors at 10 sites.

The average FFWP labourer works for 7.84 hours per day, and 5.42 days a week and cuts between 94 cuft. (as found from distribution site observations) and 105 cuft (as found from interviews) per day.

On an average the FFWP labourer earns between 4.12 seers (as found from distribution site observations) and 4.25 seers of wheat (as reported from worker interviews) per day.

About 14 percent of the workers (one in seven) admit having paid a commission to the employing agent.

Before a piece of work is undertaken the rate at which payment will be made is determined through bargaining between a gang leader and a project committee. A flat rate (seers per 1000 cuft of earthwork) is fixed, for the earthwork agreed upon by both parties.

Figures of wheat allotment and volume of earthwork from the Project Acceptance Report (CARE form-7) of 42 projects, show that wheat was to have been distributed at an average rate of 52.57 seers per 1000 cuft. of earthwork.

From 2308 worker interviews it was reported that wheat is distributed at the rate of 40.27 seers per 1000 cuft, of earthwork.

From the 86 distributions observed, the rate of wheat payment calculated is 43.89 seers per 1000 cuft.

Final figures of wheat utilisation, and volume of earthwork reported in the 936 CARE projects (excluding the Women's projects and the Consolidated Rate Experiment projects) show wheat to have been distributed at the rate of 51.97 seers per 1000 cuft of earthwork.

INTRODUCTION

The Food for Work Program (FFWP) came into existence in 1975 when the Ministry of Relief and Rehabilitation (MRR) changed its policy on the use of food aid by reducing relief handouts and encouraging a system by which food aid could be combined with employment creation for the rural poor. This system on the one hand restores human dignity which is lost when people are directly dependent upon charity, and on the other hand creates public utilities.

The objective of the FFWP was thus three fold—relief, employment and development. While relief and employment remained the prime objectives, development assumed a secondary role. The FFWP is mainly supported by USAID (with CARE as manager) and WFP. The program is implemented by local officials under the MRR, the Ministry of Agriculture and Forests, the Ministry of Local Government, Rural Development and Cooperatives, the Ministry of Fisheries and Livestock and the Water Development Board.

To minimise waste of the wheat distributed by the Government a system has been evolved by which the Government is reimbursed by CARE on the basis of measurements taken after the completion of a project. Reimbursement is to be made at a basic rate of 42.36 seers of wheat per 1000 cuft. of earthwork. There is also provision for payment for additional factors like hardness of soil resulting in difficulty in cutting, distance from point where earth is being cut to the point where it is ultimately deposited resulting in delay in movement of earth, and the vertical distance to which earth has to be moved resulting as well in delay in movement of earth.

To ensure that only unemployed or underemployed labour is drawn to the FFWP, the wage rate for projects is maintained at a level lower than the going market rate. The January-June period has been fixed as the Food For Work season so that the work can proceed smoothly unhampered by the weather and/or the major harvest period.

In 1975 the size of the national FFWP was 45,000 MT of wheat. In 1981 the size of the CARE supported projects alone reached 139,156 MT of wheat. With the FFWP gaining importance over the years it was inevitable that questions regarding the primary and secondary effects of the food for work projects would be raised.

In 1979 USAID initiated a study * aimed at developing a methodology for measuring the secondary effects of food for work projects. The study concluded that although the secondary effects are very difficult to measure, changes in the value of land attributable to FFW projects might be used for the appraisal of projects. It was also found that the primary effects might not be as impressive as generally believed. According to this

study the output per labourer, considered to be 70 cuft per 8 hour workday, was a gross underestimation, leading to an overestimation of the employment created. More thorough evaluation of the primary and secondary effects of the FFWP was thus called for. A study was undertaken by the Institute of Nutrition and Food Science to determine the productivity of labour, extent of employment created, and amount of wheat actually reaching the labourers on the one hand, and to determine secondary effects through an opinion survey on the other. This report is the outcome of such an evaluation carried out in March and April 1981.

• Brundin, H., Food For Work in Bangladesh - Recommendations for Improved Program Effectiveness. USAID, Dacca 1979.

II METHODOLOGY

2.1. Sampling Plan

Out of 990 FFWP projects accepted for the 1980-81 season 74 Women's projects and 17 Consolidated Rate Experiment projects were excluded from the study since they were not truly representative of the normal FFWP project.

The projects were spread over 386 thanas, in 19 districts of Bangladesh. On an average there were 2.3 projects in each thana. Based on the Brundin study's recommendation a 5 per cent sample (45 projects) was selected. An average of 2.3 projects per thana required the selection of 20 thanas ($45 \div 2.3$) for proportional sampling.

2.1.1 Selection of Thanas

The country was divided into 5 zones, as suggested by Brundin.

Zone	District
North — Eastern (NE)	Sylhet, and Netrokona and Kishoreganj sub-divisions of Mymensingh District.
Central — Northern (CN)	Rest of Mymensingh District, Jamalpur and Tangail.
North — Western (NW)	Rajshahi, Bogra, Dinajpur and Rangpur.
Central & Western (CW)	Comilla, Dacca, Faridpur, Pabna, Jessore and Kushtha.
Southern (S)	Chittagong, Noakhali, Barisal, Patuakhali and Khulna.

Zone	No. of Thanas	No. of Thanas selected from each zone
NE	35	2
CN	29	2
NW	97	5
CW	147	7
S	79	4
Total	386	20

1. The total number of FFW projects for 1980-81 was 1027, but this information was not available at the time of selecting the projects for the study.

Using $n_i = \frac{n}{\sum_i N_i} \cdot N_i$,

where n = Total number of thanas to be selected (20).

the number of thanas to be selected from each zone was found. The thanas for each zone were randomly selected.

N_i = Number of thanas in i th zone

n_i = Number of thanas to be selected from the i th zone.

2.1.2 Selection of Projects

From the selected thanas projects were selected from amongst the five types, namely, road, embankment, road cum embankment, canal and tank, using a stratified sampling method.

Using $x_i = \frac{x}{\sum_i X_i} \cdot X_i$,

where x_i = Number of projects to be selected from the i th zone.

the number of projects to be selected from each zone was found.

X_i = Number of projects in i th zone.

x_i = Total number of projects to be selected (45)

Similarly, using $w_i = \frac{w}{\sum_i W_i} \cdot W_i$,

where w_i = Number of i th project to be selected from each zone.

for each zone separately the number of different types of projects for each zone was found. The projects were then randomly selected from the selected thanas. In the event that selected thanas of a zone did not have all projects to be included in the study, the another thana was randomly selected.

W_i = Number of i th project in each zone.

w = Number of projects to be selected from each zone.

NUMBER OF DIFFERENT PROJECTS TO BE SELECTED FROM EACH ZONE

Zone	Type of project	Road	Embankment	Road/embankment	Canal	Tank	Total
NE		2	1	1	—	—	4
CN		2	—	1	—	—	3
NW		7	—	2	1	1	11
CW		8	1	3	4	1	17
S		6	1	1	2	—	10
Total		25	3	8	7	2	45

2.1.3 Selection of FFWP Workers

It was originally planned that the names of the workers would be listed, and then every fifth worker in the list would be interviewed. Workers in a project would be counted once a week. When the field work started, however, it was found that labourers were constantly on the move. Picking a labourer from a list prepared in advance proved to be extremely time consuming. It was therefore decided that every fifth worker encountered at a project site, starting from a randomly selected worker, would be interviewed. Workers would be counted in a project at least twice a week.

2.2. Development of Questionnaire

A questionnaire was designed to:

1. Determine how much wheat actually reaches the labourer, and if labourers actually receive the specified amount of wheat for their site in exchange for such labour.
2. Ascertain: (a) if the FFW assumptions regarding labour created are valid, (b) how much labour is actually created, and (c) was the Brundin study correct when it found the USAID/Bangladesh labour estimates were inaccurate.
- 3 Determine if recipients feel the FFW will: (a) increase the value of nearby land: (b) increase crop production, or conversely reduce crop loss caused by either flooding or drought: or, if the project, is a road, increase the marketability of farm products and, (c) will the FFW result in a need for increased labour in these nearby areas?

The questionnaire was pre-tested in food for work projects near Dacca. Unfortunately the food for work season had already started when the study was undertaken. What with selection and training of research staff, there was no time to undertake intensive tours of project sites prior to sample selection. Only after the field work had started was it discovered that it was extremely difficult to observe wheat distribution.

2.3. Observing Wheat Distribution and Basket Counting

Information collected from actual distribution sites was to have been used as a countercheck to information collected through interviews. Information from distribution sites was to include number of workers, number of gangs, output per gang, number of days worked, and amount of wheat received per gang

For a direct assessment of labour productivity, earthwork was to be observed. Output of work was to be measured by counting the number of baskets of earth moved per hour. Since productivity is likely to fall as the sun rises higher, observations were to be recorded at different periods of a working day. Baskets do vary in size between locations, but not very much. Through experience most labourers have arrived at an optimum size for baskets. On an average therefore it was found that a basket is roughly equivalent to 3/4 cuft. of earth.

2.4. Selection and Training of Interviewers

By the first week of February, selection of research Officers, and Senior Research Officers was completed. They were given training at the Institute, including two field trips to FFWP projects. By the 15th March the Research Officers were sent out to the selected thanas.

A Research Officer was stationed at a thana for 6-7 weeks, and besides interviewing the FFWP workers, sent weekly information on prices of essentials, and labour wage rate. He also measured output of work and monitored wheat distribution. Prices of essentials were collected from the local market nearest to the project site. Prevailing labour wage rates were found from local agricultural labourers and persons hiring them.

A Senior Research Officer was in charge of the Research Officers in his zone. He supervised their work and gave necessary advice. He sent monthly reports to Dacca on the status of all the projects in his zone.

2.5. Study Period

The field survey was carried out between mid-March and end of April. Originally the field work was to have been continued till the end of May. However it was cut short on the recommendation of the USAID study monitor hired to assist in the execution and analysis of the study.

It was not possible to monitor distribution of wheat at every site. Project Committees discouraged it. Despite constant requests from the Research Officers they did not reveal distribution dates. If the Research Officers reached distribution sites by chance, distribution was suspended. Depending upon the interviewer's ingenuity and acumen the number of distributions observed varied from location to location. Most project committees withheld assistance from the investigation. Observation of wheat distribution was intended to be used as a countercheck to information received from interviews. Failure to witness all the wheat distributions at every site raised questions regarding acceptability of the data. The sample size was thus reduced to include only those locations where distributions had been observed. This unavoidable reduction in the size of sample, resulting from an exclusion of sites where wheat distribution could not be seen, however, did not cause any serious problem as far as the statistical significance of the outcome is concerned, since the population is more or less homogeneous. A random part of a random sample is also a random sample. A reduced sample is a random part of the whole sample.

The standard error (S. E.) of the average rate at which wheat was meant to be given (CARE form 7) in the original 45 locations (S. E. = 4.087) increased by 15 percent in the reduced sample (S. E. = 4.709). To examine the statistical acceptability of this change a t-test was performed to find if the average rate (seers per 1000 cuft.) at which wheat was meant to be given (CARE form 7) in the original 45 locations was significantly different from the average rate (seers per 1000 cuft.) in the reduced sample. There was no significant difference between the two. To compare the variance of the average rate at which wheat was meant to be given in the original 45 locations and the variance of the average rate in the reduced sample, an F-test was used. Statistically there was no significant difference between the two.

1. Hansen, M. H., Hurwitz, W. N. and Medow, W. G., *Sample Survey Methods and Theory*, New York, John Wiley and Sons, 1953.

III A STATISTICAL PROFILE

This section gives a descriptive profile of all selected projects. It affords easy comparison between projects with regard to age, sex and experience of workers, hiring agents, and size of projects.

An idea can be formed of the size of the different selected projects from the table below.

Table-1
SIZE OF PROJECTS

Location	Project No.	Project Type	Volume of earthwork (cuft.)	Total wheat allotment (mds)	Number of unions crossed
Kotwali, Sylhet	918	Road	2,758,579	3,505	2
"	1253	Road	2,588,160	3,292	3*
Austagram	58	Embank.	4,377,959	5,598	1
"	59	Rd/Emb.	4,109,895	4,927	2
Dewanganj	368	Rd/Emb.	15,428,115	19,474	4
Sherpur	266	Road	3,191,352	4,083	3
"	267	Road	8,573,363	11,394	2
Gabtali	398	Road	4,142,559	5,173	2**
"	410	Canal	3,240,454	4,505	1
Boda	1014	Rd/Emb.	1,859,890	2,433	1
"	1015	Rd/Emb.	2,423,853	3,152	3
Natorc	190	Road	7,587,651	9,740	2
"	207	Road	2,234,285	2,876	1
Puthia	113	Road	4,750,508	5,654	2
"	116	Road	2,429,140	2,885	1
"	119	Road	1,209,480	1,538	2
Akkelpur	421	Road	1,344,951	1,756	1
"	426	Tank	2,229,850	3,527	1
Kachua	509	Road	5,065,540	7,147	3
"	510	Road	3,518,868	4,555	1
"	518*	Canal	4,065,169	6,204	3

* Work in Lalabazar union was not undertaken. Work was thus restricted to unions of Siam and Moglisbazar.

** Initially planned for three Unions (CARE form 7) this project ultimately was not undertaken in Mohishaban union.

Location	Project No.	Project Type	Volum of earthwork (cuft.)	Total wheat allotment (mds)	Number of unions crossed
Manikganj	477	Emb.	2,901,742	4,032	3
"	468	Road	3,393,435	4,946	2
"	469	Rd/Emb.	4,281,321	5,988	4
Fatullah	539*	Tank	2,105,875	3,645	1
Rajbari	555	Road	5,760,985	7,541	4
"	556	Rd/Emb.	4,535,735	5,865	2
"	561	Road	4,012,778	5,154	1
Sujanagar	1246	Rd/Emb.	10,840,102	13,789	3
"	1247*	Canal			
Alamdanga	789	Road	5,056,496	6,303	3
"	790	Road	1,643,110	1,994	3
"	801	Canal	3,118,999	4,242	1
Damurhuda	794	Road	4,964,219	6,842	2**
"	802	Canal	2,719,842	4,620	1
Laxmiour	604	Road	2,166,766	2,764	3
"	602	Road	1,582,657	2,177	2
"	600	Road	1,812,676	2,309	1
Feni	1261	Rd/Emb.	5,299,071	6,749	2
"	694	Road	2,356,775	3,206	3
Mehendiganj	941	Emb.	3,864,723	5,039	1
"	947	Canal	3,511,360	5,480	2
Bhola	816	Road	1,722,339	2,210	1
"	805	Road	2,702,595	3,457	1
"	817	Canal	9,654,69	1,389	1

3.1. Project Description By Location

Kotwali is a food deficit thana (with pockets of surplus areas) in the district of Sylhet. Two of the CARE projects were selected for the study. The local opinion was that both the projects were absolutely vital. Projects 1253 is a reconstruction of a 6 mile long road, crossing the unions of Silam and Moglabazar. Work in Silam union was successfully completed. In Moglabazar union however almost 40 percent of the work still remained incomplete, when the field work was suspended.

Project 98 is a reconstruction of a 7 mile long road. The 4-5 miles between Salotikor and Hatkhola has been supervised. The remainder between Hatkhola and Jalalabad has not been properly supervised. Design specifications were not followed resulting in complete misutilisation of resources.

* Work in these projects were suspended during the period that the Research Officers were there. They were not included in any analysis

** Initially planned for 3 unions. Work was not undertaken in Natipote union.

Austagram is a food surplus thana in Mymensingh with Irri, Boro as the main crop. Included in the North Eastern Zone, this thana had three CARE projects in the 1980-81 season, out of which two were selected for this study.

Project 58 is a reconstruction of a 6½ mile long embankment. Although confined to one union, because of the length of the project it was placed under the responsibility of two project committees.

Project 59 is also a reconstruction project. It was a little over 4 miles in length. It crossed the unions of Bangalpara and Deoghar.

Dewanganj thana is a food deficit area in the district of Jamalpur. There were two CARE projects in the 1980-81 season. Project 368 is 20 miles in length, starting at a point, almost 5 miles from the thana headquarters, on the northern bank of the river Brahmaputra and ending at the foot of the Garo hills on the border of Rangpur district. The project crosses four rivers and as such its utility as an embankment may be questioned. As a road, however it will provide a much needed means of communication.

Sherpur is a food deficit thana in the district of Jamalpur. There were four CARE projects in the 1980-81 season. Of these, two road projects were selected for the study. Both roads are reconstruction projects. Road 266 is 6 miles long. It connects Rohabetmari union to the thana headquarter. The road passes over Balairchar and Lasmanpur unions. Road 267 is 11 miles long. It connects Balairchar to the district headquarter. The two roads intersect at Balairchar.

Gabali thana is a food surplus area in the district of Bogra. There were two CARE projects in the thana for the 80-81 season. Both were selected for the study. Project 398 was a 7 mile long road. It was a reconstruction project 410 was a 3 mile long canal. This was a re-excavation work.

Boda is a food surplus* thana in the district Dinajpur. There were two CARE projects in the thana for the 1980-81 season. Both were selected for the study. Project 1014 is a road-embankment project. It has a length of 4 miles. Project 1015 is also a road-embankment project. It is over 6 miles in length. The general opinion of the local people was that both the projects would improve communication in the area. They were however, generally doubtful about the benefits to be derived from the embankment aspect of the projects.

Natore is a food deficit thana in the district of Rajshahi. There were two CARE projects in the thana in the 1980-81 season. Both were included in the study. Project 190 is a 10 mile long project connecting the two unions of Khazuria and Madhuagar. There is a railway station at Madhuagar. When completed this project may help to improve communication in the area. The possibility of completion in the 1980-81 season is remote. This is a reconstruction project. Initially it was a mile long road. Project 207 is a 6 mile long road. This is also a reconstruction project. Efforts were directed towards widening the road.

* Less than 1% of the households own more than 80% of cultivable land. Foodgrain is exported. This information was received from the thana C.O. (Dev.'s) Office.

Puthia is a food deficit thana in the district of Rajshahi. Of the 8 CARE projects in the 80-81 season 3 were selected for the study. Project 113 is an 8 mile long road. Project 116 is nearly all 4 miles in length, and project 119 is 3 miles long. These are all reconstruction work. The popular opinion is that the projects will improve communication in the area. The roads have all been widened.

Akkelpur is a food surplus thana in Bogra. Out of 3 CARE projects in the thana during '80-81 season, 2 were selected for the study. Project No. 421 is a 7 mile long road. It is a reconstruction work joining the thana to the sub-divisional headquarter. Previously the only means of communication between Akkelpur and Joypurhat sub-divisional headquarter was by train. Project 426 is a re-excavation work on a 500 sq.ft. tank with a depth of 12 feet. Irrigable paddy is cultivated on the slopes of the tank. Water from the tank can be pumped for irrigating nearby land. The tank will be leased out for pisciculture on a cooperative basis.

Kachua is a food deficit thana in the district of Comilla. All three CARE projects in Kachua thana were selected for the study. Project 509 is a reconstruction work on a 7 mile long road that connects nearly 10 villages with thana headquarters. When completed this should allow pedestrians and cyclists easy passage throughout the year. However work in union Kachua (North) was suspended due to problems not related to the FFWP*, resulting in 1½ miles of the road remaining incomplete. Project 510 is a 6 mile long road that connects some remote villages to the thana headquarter. It is a reconstruction project. The road has been extended to allow people from remote villages to reach the only high school in the area with relative ease.

Manikganj is a food deficit thana in the district of Dacca. All three CARE projects in the thana were selected for the study. Project 477 is an embankment constructed ostensibly to protect land from the river Kaliganga, during the rainy season. In reality this will serve as a 5 mile long road connecting remote villages to the thana headquarters. The popular opinion seems to be that there is no need for an embankment at this spot, since normal floods do not affect the area anyway, whereas the embankment constructed is not adequate to control heavy floods.

Project 468 is a reconstruction of a 5 mile long road. The area produces tobacco, and there are two important hats** that operate twice a week. According to the project design the road was to have been 14 feet wide allowing for heavy vehicular traffic. Unfortunately the design specifications were not followed and the average width of the road when completed was closer to 10 feet.

Project 469 is a reconstruction of a road-cum-embankment. It is nearly 9 miles in length, starting from the Manikganj-Singair D. C. road and running due south. The river Kaliganga crosses the road/embankment at its mid point. The people feel that the project will change the mode of communication in the area. However as an embankment its importance is limited.

* A vote of no confidence was brought against the Chairman and he was suspended.

** A local market that operates on certain days of a week.

Rajbari is a food deficit thana in Faridpur. Three CARE projects were selected for the study. Project 555 is a reconstruction of a 7½ mile long road starting from Alipur union on the Goalundo - Rajbari road and running west across four unions. It is an all weather road that has been sufficiently widened to accommodate heavy vehicular traffic. It will improve communication

in the area allowing people in remote areas to have easy access to the thana headquarter. Project 556 is a reconstruction of a 5 mile long road cum embankment starting from Alipur union on the Goalundo—Rajbari road and running east across 2 unions to Khankhanapur Bazar, an important jute trading centre. The popular opinion is that as an embankment it has no apparent utility. As a road however it will improve communication in the area. Unfortunately, since the area has sandy soil the degree of erosion in the rainy season is rather high. During the study period heavy rain damaged the project.

Project 561 is a reconstruction of a 5 mile long road running south west from the river Kumar which flows between Khalilpur union and Sultanpur union. The road is in Sultanpur union. Across the river, at the starting point is Khalilpur Bazar. The road thus affords easy access for villagers in Sultanpur union, which has no markets, to marketing facilities in Khalilpur bazar. The road is sufficiently wide to allow passage of all kinds of vehicles. It is an all weather road.

Sujanagar is a food deficit thana in Pabna. Two CARE projects were selected for the study. Project no. 1246 is a 10 mile long road cum embankment. It starts at Birahimpur bazar, some 26 miles from Pabna on the Nagarbari - Pabna road and ends at Khalilpur hat in Sagar-kandi union. The public opinion seems to be that the project will improve communication in the area. As an embankment however its utility is considered doubtful.

Alamdanga is a food deficit thana in Kushtia. Three CARE projects were selected for the study. They were all reconstruction works. Project 789 is a 9½ mile long road connecting the thana headquarters to villages in backward lowland areas. The project will provide an all weather road for bullock carts, cyclists, and pedestrians, and dry season road for trucks. The local elite want to have the road metalled* (under some development scheme) since it shortens the trip between Modhupur, an important market (with a high school), and the sub-divisional headquarter. Project 790 is also a road. It is nearly 5 miles in length meeting the Alamdanga - Chuadanga metalled road some three miles from Alamdanga. The road has been sufficiently widened to allow heavy vehicular traffic during the water level allowing bullock carts to move freely. Project 801 is a re-exavation of a canal that has existed from the British period. It probably served as a moat to the residence of British indigo planters. The canal has been further deepened by 8 feet. At one end it connects to a canal being cut under the President's canal digging program.

Damurhuda is a food deficit thana in Kushtia. Both the CARE projects in the thana were selected for the study. Project 794 is a reconstruction of a 9 mile long road starting in Kurulgachi union at a point where project 802 ends, and goes on to Karpashdanga union. This is an all weather road for bullock carts. It has been sufficiently widened to

* Covered with stone and pitch.

allow the simultaneous passage of two bullock carts moving side by side. The road connects remote villages to the thana headquarter.

Project 802 is a re-excavation of a canal. The existing canal has been both deepened and extended.

Laxmipur is a food deficit thana in Noakhali. Three of the CARE projects in Laxmipur were selected for the study. Project 604 is a reconstruction of a 5 mile long road, running north from Mandari Bazar on the Laxmipur - Feni metalled road, to Gashirpur union. The road has been sufficiently widened to allow heavy vehicular traffic. However, there are some narrow bridges along the length of the road which are wide enough to allow only bullock carts to pass.

Project 602 is a reconstruction of a 3 mile long road starting from Teariganj bazar and running east across two unions to Dighuti bazar. It is an all weather road for bullock carts and rickshaws. Near Dighuti bazar however, a small stream crosses the road. No trace of the old bridge over the stream exists. Until a bridge is constructed the road virtually ends at the stream - the construction work carried on beyond the stream will not be of any use. Project 600 is a reconstruction of a 3½ mile long road in Charshai union. It connects some remote villages in the east to Bashurhat bazar. A narrow stream crosses the road in the east. Until this is bridged the road cannot be properly used even by bullock carts.

Feni is a food deficit thana in Noakhali. Two of the six CARE projects in the thana were selected for the study. Project 1261 is a reconstruction of a 14 mile long road-cum-embankment. The popular feeling is that as an embankment it will prevent flooding from the river that flows along side the embankment. As a road also it will improve communication. Project 694 is maintenance work on a 10½ mile long road.

Mehendiganj is a food surplus thana in Barisal. Both the CARE projects in the thana were selected for the study. Project 941 is a completion of an incomplete embankment. It is circular in shape, designed to protect the enclosed land from surrounding rivers. As an embankment it is unlikely to be particularly successful. Canals penetrate the embankment, and hence without sluice gates to control the water flowing into the canals, the embankment will not serve its purpose. As a road it allows easy communication to pedestrians since there are bridges over the canals

Project 947 is a re-excavation of a 5½ mile canal. Apparently the only benefit from this project is the road that has been created from the earth moved from the canal. At best the canal can help irrigate small plots of land. It has not been sufficiently deepened to allow passage of large boats. Small country boats move around as they did before the projects was undertaken.

Bhola is a food surplus thana in the district of Barisal. Three of the CARE projects in the thana were selected for the study. Project 816 is a reconstruction of a road. It begins on the Bhola - Daulatkhan thana metalled road, some 4 miles from Bhola, and runs north for 2 miles before curving eastward then south to join the Bhola Daulatkhan road some 2 miles from Bhola.

Project 816 is an all weather road which affords easy passage to pedestrians all the year round. Project 805 is a reconstruction of a 6 mile long road from Ghazirchar in velumia union to the Kalabadur river. Across the river is Bauphal thana in patuakhali district. This is also an all weather road for pedestrians, allowing easy communication with important markets, throughout the year. Project 817 is a re excavation of a 3 mile canal. It helps in the production of Irri paddy on both banks. Work on this project was suspended following the breaking up of the temporary dam raised to prevent water from flowing into the canal, to facilitate cutting

3.2. Sex of Workers

Women workers were found only in Natore and Manikganj. While they represented a small percentage of the total workers in Natore, in Manikganj in the three selected projects nearly 33 percent of the labour force were women.

Table 2
SAMPLE SIZE AND SEX

Location	Project no.	Project Type	Total No. of workers		No. of sample workers		Percent of total workers	
			Male	Female	Male	Female	Male	Female
							Sample as	
Kotwali Sylhet	918	Road	95	0	17	0	17.89	0
..	1253	Road	65	0	13	0	20	0
Austagram	58	Emb.	839	0	62	0	7.39	0
..	59	Rd/Emb.	904	0	68	0	7.52	0
Dewangong	863	Rd/Emb.	1126	0	173	0	15.36	0
Sherpur	266	Road	461	0	82	0	17.79	0
..	267	Road	872	0	39	0	4.47	0
Gabtali	398	Road	1116	0	66	0	5.91	0
..	410	Canal	905	0	63	0	6.96	0
Boda	1014	Rd/Emb.	214	0	22	0	10.23	0
..	1015	Rd/Emb.	647	0	58	0	11.15	0
Natore	190	Road	1137	29	97	6	8.53	20.69
..	207	Road	175	0	32	0	18.29	0
Puthia	113	Road	1137	0	111	0	9.76	0
..	116	Road	746	0	53	0	7.1	0
..	119	Road	641	0	49	0	7.64	0
Akkelpur	421	Road	222	0	37	0	18.32	0
..	426	Tank	222	0	25	0	11.26	0
Kachua	509	Road	181	0	32	0	17.67	0
..	510	Road	122	0	13	0	10.66	0

Location	Project No.	Project Type	Total No. of workers		No. of sample workers		Percent of total	
			Male	Female	Male	Female	Male	Female
Manikganj	477	Emb.	138	163	11	22	7.97	13.5
"	468	Road	352	69	42	8	11.93	11.59
"	469	Rd/Emb	84	46	15	3	17.86	6.52
Rajbari	555	Road	322	0	52	0	16.15	0
"	556	Rd/Emb.	398	0	52	0	13.07	0
"	561	Road	212	0	35	0	16.51	0
Sujanagar	1246	Rd/Emb.	1219	0	104	0	8.53	0
Alamdanga	790	Road	862	0	28	0	3.25	0
"	801	Canal	469	0	58	0	12.37	0
"	789	Road	795	0	94	0	11.82	0
Damurhuda	802	Canal	750	0	75	0	10	0
"	794	Road	1000	0	109	0	10.9	0
Laxmipur	604	Road	252	0	36	0	14.29	0
"	602	Road	395	0	60	0	15.19	0
"	600	Road	143	0	21	0	14.69	0
Feni	1261	Rd/Emb.	621	0	81	0	13.04	0
"	694	Road	260	0	51	0	19.62	0
Mehendiganj	941	Emb.	860	0	57	0	6.63	0
"	947	Canal	774	0	47	0	6.07	0
Bhola	805	Road	713	0	59	0	8.27	0
"	816	Road	250	0	58	0	20.72	0
"	817	Canal	52	0	12	0	23.08	0

3.3. Age of Workers

The age distribution of food for work labourers is given in the table below, the majority of workers were in the age group 25-45 years.

Table-3

AGE DISTRIBUTION OF WORKERS

Location	project No.	project Type	Sample Size	15 %	15-.5 %	25-35 %	35-45 %	45-55 %	55 %	Mean age (years)
Kotwali	1253	Road	13	7.69	33.46	38.46	15.38	0	0	25.31
Sylhet	918	Road	17	0	0	64.71	23.53	11.76	0	34.82
Austagram	58	Emb.	62	0	12.9	35.48	25.81	16.13	9.60	34.03
"	59	Rd/Emb	68	0	13.24	54.41	16.18	16.18	0	31.19
Dewanganj	368	Rd/Emb.	173	0	8.67	47.39	39.88	2.31	1.73	62.65

Location	Project No.	Project Type	Sample Size	less than						Mean age (years)
				15 %	15-25 %	25-35 %	35-45 %	45-55 %	55 + %	
Sherpur	266	Road	82	1.22	18.29	52.44	18.29	6.1	3.66	30.93
..	267	Road	39	5.13	12.82	55.41	20.51	2.55	2.56	30.36
Gabali	398	Road	66	0	12.21	51.52	18.18	6.06	3.03	30.15
..	410	Canal	63	0	23.93	44.44	25.40	3.17	0	28.46
Boda	1014	Rd/Emb.	22	18.18	18.18	40.91	22.73	0	0	26.45
..	1015	Rd/Emb.	58	3.44	22.41	50	18.97	5.17	0	28.00
Natore	207	Road	32	6.25	37.5	43.75	9.37	3.13	0	26.81
..	190	Road	103	3.88	16.5	39.81	22.33	13.59	3.88	32.89
Puthia	113	Road	111	0	46.85	35.03	10.81	5.41	0.9	26.48
..	116	Road	53	3.77	35.85	45.28	11.32	3.77	0	25.91
..	119	Road	49	2.04	51.02	20.41	14.29	12.24	0	27.12
Akkelpur	421	Road	37	10.81	29.73	21.62	24.32	5.41	8.11	29.27
..	426	Tank	25	4.00	24.00	36.00	16.00	16.00	4.00	31.00
Kachua	509	Road	32	3.12	21.88	50.00	18.75	6.25	0	29.12
..	510	Road	13	0	23.03	53.85	15.38	7.69	0	29.69
Manikganj	477	Emb.	33	0	21.2	51.5	18.18	6.1	3.00	33.43
..	468	Road	50	4.00	30.00	36.00	14.00	16.00	0	35.32
..	469	Rd/Emb.	18	0	22.2	50.00	5.55	16.57	5.56	30.36
Rajbari	555	Road	52	0	15.39	46.15	21.15	15.39	1.92	33.13
..	556	Rd/Emb.	52	0	17.31	33.46	36.54	5.77	1.92	32.25
..	561	Road	35	0	17.14	40.00	25.71	11.43	5.71	34.09
Sujanagar	1246	Rd/Emb.	104	0	23.03	36.54	30.77	6.73	2.88	33.76
Alamdanga	790	Road	28	0	14.29	50.00	23.57	7.14	0	30.54
..	801	Canal	58	1.72	17.24	50.00	18.97	10.34	1.72	30.20
..	789	Road	94	0	32.93	43.62	12.77	10.64	0	27.87
Damurbuda	802	Canal	75	2.7	38.7	41.3	10.7	5.3	1.3	27.67
..	794	Road	109	0.92	39.45	37.61	18.35	3.67	0	27.39
Laxmipur	604	Road	36	5.55	16.67	16.67	33.33	15.67	11.11	36.36
..	602	Road	60	0	15.00	25.00	23.33	21.67	15.00	38.05
..	600	Road	21	0	9.52	42.86	33.33	14.29	0	33.19
Feni	1261	Rd/Emb.	81	0	22.22	24.69	29.99	19.75	12.35	35.19
..	694	Road	51	3.92	25.49	21.57	27.45	21.57	0	32.86
Mehendiganj	941	Emb.	57	1.75	19.3	31.53	29.82	15.79	1.75	32.7
..	947	Canal	47	0	29.79	36.17	23.4	4.26	6.33	31.15
Bhola	805	Road	59	0	20.34	59.32	15.26	3.39	1.69	28.44
..	816	Road	58	0	21.18	46.55	24.14	5.17	0	28.86
..	817	Canal	12	0	25.00	66.67	8.33	0	0	26.67
All Sites			2308	1.56	23.79	41.29	21.71	9.93	2.73	30.79

3.4 Migrant Workers

A migrant worker was defined as one who came to work in a project from another thana. Migrant workers were only found in Sylhet Kotwali, Gabtali, Boda, Natore, Akkelpur, Manikganj and Bhola.

Almost 13 percent in Sylhet Kotwali were migrant workers. It may be mentioned that there were no migrant workers in Sylhet project 1253. All the migrant workers at the Sylhet site were from the district of Noakhali.

There was 29.5 percent migrant labour in Gabtali. The majority came from the neighbouring district of Rangpur. Some came from the neighbouring thana of Shariakandi.

Almost 31 percent of the FFWP workers in Boda were migrant. They had come over from the neighbouring thanas.

In Natore nearly 29 percent of the workers were migrant. Some had come from adjoining thanas, while others came from the districts of Pabna and Barisal.

Of the 10 percent migrant workers in Akkelpur nearly 8 percent had come over from the neighbouring district of Rangpur. The remainder had come from a neighbouring thana.

Migrant workers are not easily come by in Manikganj. Only 6 percent in project 469 and 3 percent in project 477 came to work from adjoining thanas. There were no migrant workers in project 468.

In Bhola twenty percent of the labourers in project 805 came to work from adjoining villages. On an average these labourers travel over 12 miles to reach the project site.

3.5. Experience of Workers

The percentage of workers with experience in FFWP varied from project to project. For an inter project comparison, the information has been tabulated below.

Table - 4

WORKING EXPERIENCE BY PROJECT

Location	Project No.	Project Type	Sample Size	Experienced %	Average years of Experience
Kotwali	1253	Road	13	7.69	5
"	918	Road	17	17.65	4
Austagram	58	Emb.	62	88.71	4.89
"	59	Rd/Emb.	68	67.65	3.17
Dewanganj	368	Rd/Emb.	173	52.6	2.55

Location	Project No.	Project Type	Sample Size	Experitence %	Average years of Experienc
Sherpur	266	Road	82	92.68	3.33
..	267	Road	39	71.79	2.32
Gebtali	398	Road	66	33.33	2.37
..	410	Canal	63	73.01	2.48
Boda	1014	Rd/Emb.	22	63.64	2.07
..	1015	Rd/Emb.	58	55.17	1.91
Natore	207	Road	32	75	3.08
..	190	Road	103	54.37	3.86
Puthia	113	Road	111	82.88	3.98
..	116	Road	53	83.02	3.59
..	119	Road	49	81.63	3.40
Akkelpur	421	Road	37	59.46	3.23
..	426	Tank	25	88	2.41
Kachua	509	Road	32	37.5	2.33
..	510	Road	13	100	2.85
Manikganj	477	Emb.	33	66.33	2.68
..	468	Road	50	48	3
..	469	Rd/Emb.	18	77.75	2.93
Rajbari	555	Road	52	15.38	2
..	556	Rd/Emb.	52	38.46	2.6
..	561	Road	35	48.57	2
Sujanagar	1246	Rd/Emb.	104	79.81	3.59
Alamdanga	790	Road	28	82.14	1.91
..	801	Canal	58	62.07	2.31
..	789	Road	94	59.57	2.16
Damurhuda	802	Canal	75	89.33	2.78
..	794	Road	109	64.22	1.66
Laxmipur	604	Road	36	77.78	4.46
..	602	Road	60	71.67	2.63
..	600	Road	21	71.43	3.13
Feni	1261	Rd/Emb.	81	80.25	2.43
..	694	Road	51	82.35	2
Mehendiganj	941	Emb.	57	64.91	3.27
..	947	Canal	47	63.83	3.37
Bhola	805	Road	59	61.02	4.08
..	816	Road	58	91.38	5.08
..	817	Canal	12	100	4.42
All sites			2308	66.72	3.04

3.6. Mode of Payment

Payments in 30 project sites were made in wheat, to the gang leaders, on the basis of work completed by their gangs. There were, however, minor deviations from the norm. These included the following :

In Sylhet there was considerable difficulty in getting labour since the wages were not good compared to market rates. The people do not like wheat, and payment was made in cash. Wages varied between an upper and lower limit.

Lower limit - Tk. 120 per 1000 cuft. of earthwork
Upper limit - Tk. 189 " " " " " "

*Lower limit
about 1000
of earthwork.*

The local price of wheat during the study period was Tk. 2.50 per seer (average).

Workers in Kotwali, Sylhet were paid on the basis of work completed by a gang. The gang leader received the money for the members of his gang and later distributed it among them. Workers were however hired on daily basis while dressing was going on in project no. 918.

Payment to workers in Sherpur was made in wheat in project 266. In project no. 267 however nearly 70 percent of the workers received paddy. Workers were mostly paid according to the work accomplished by gangs. However in cases (four gangs in project 266 and three gangs in project 257) where the gang was very small, comprising one or two labourers, payment was made on the basis of individual achievements. In Sherpur only 7 of the sampled workers were paid according to their individual achievements.

Table-5

PAYMENT IN CASH AND PADDY

Location (Thana)	Project No.	Project Type	Sample Size	Payment in Cash (No. of workers)	Payment in Paddy (No. of workers)
Sylhet Kotwali	918	Road	17	17	—
"	1253	Road	13	13	—
Sherpur	267	Road	39	—	27
Gabtali	410	Canal	63	3	—
Akkelpur	421	Road	37	—	37
"	426	Tank	25	—	25
Natore	190	Road	103	47	—
Boda	1014	Rd/Emb.	22	3	—
"	1015	Rd/Emb.	58	2	—
Bhola	805	Road	59	59	—
"	816	Road	58	58	—
"	817	Canal	12	12	—
			506	214	89

In Gabtali. In project 398, wheat was given to the labourers on the basis of work accomplished by a gang.* The gang leader received the payment on behalf of the members of his gang. In project 410 however 3 of the sampled workers received payment in cash. Payment was made to gang leaders.

In Natore in project 190, both cash and wheat were distributed. Payment was made on the basis of work done by a gang. Payment was made to gang leaders who later distributed it among their members.

Payment to workers in Boda was made in wheat. However 3 workers in project 1014, and 2 in project 1015 received cash. Payment was made to gang leaders.

In Akkelpur payment was made in paddy.

Workers in Laxmipur were paid mostly on the basis of work completed by gangs. However in cases of dressing and levelling workers were paid individually.

Payment in Bhola was made in cash and kind. From the fifth week of the study period, cash was given to the labourers in project 805. Earlier, wheat had been given. In project 816, and 817, money was given to the labourers. The labourers received payment on the basis of work completed by a gang.

3.7 Regularity of Distribution

Workers who could not say when they would next be paid or said that a date had been given but it was unlikely that payment would be made then, were considered to have felt that distribution was irregular. The majority of workers in most locations felt that distribution of wheat was irregular.

The following table affords inter project comparison.

Table-6
Regularity of Distribution

Location (Thana)	Project No.	Project Type	Percentage feeling Distribution was irregular %
Kotwali (Sylhet)	918	Road	52.94
..	1253	Road	0
Austagram	58	Emb	100
..	59	Rd/Emb.	85.29
Dewanganj	368	Rd/Emb.	100
Sherpur	266	Road	100
..	267	Road	100

* Included in this were some one-man gangs.

Location (Thana)	project No.	project Type	percentage feeling distribution was irregular %
Gabtali	398	Road	60.61
"	410	Canal	85.71
Akkelpur	421	Road	83.78
"	426	Tank	84
Boda	1014	Rd/Emb.	63.64
"	1015	Rd/Emb.	72.41
Natore	190	Road	28.16
"	207	Road	59.38
Puthia	113	Road	73.87
"	116	Road	86.79
"	119	Road	61.22
Kachua	509	Road	100
"	510	Road	84.62
Manikganj	468	Road	72
"	469	Rd/Emb.	83.33
"	477	Emb.	66.67
Rajbari	555	Road	23.08
"	558	Rd/Emb.	59.62
"	561	Road	37.14
Sujanagar	1246	Rd/Emb.	4.81
Alamdanga	789	Road	68.09
"	790	Road	42.86
"	801	Canal	82.76
Damurhuda	794	Road	81.65
"	802	Canal	76.00
Laxmipur	600	Road	80.95
"	602	Road	53.33
"	604	Road	55.56
Feni	694	Road	23.53
"	1261	Rd/Emb.	48.15
Mehendiganj	941	Emb.	22.81
"	947	Canal	0
Bhola	805	Road	5.08
"	816	Road	0
"	817	Canal	0
All sites			61.27

3.8 Hiring Agents

Hiring was mostly done by project committees and Gang leaders. In some cases however contractors also brought people to projects. The information collected from interviewing labourers is given below.

Table - 7

Hiring Agents by Projects

Location (Thana)	Project No.	Project Type	Sample Size	Hired by		
				Project Committee (%)	Gang Leader (%)	Contractor (%)
Sylhet (Kotwali)	918	Road	17	64.71	11.76	23.53
..	1253	Road	13	84.62	15.38	—
Austagram	58	Emb.	62	100	—	—
..	59	Rd/Emb.	68	100	—	—
Dewanganj	368	Rd/Emb.	173	82.65	—	17.34
Sherpur	266	Road	82	67.03	32.93	—
..	267	Road	39	71.79	28.21	—
Gabtali	398	Road	66	89.39	10.60	—
..	410	Canal	63	39.68	49.21	11.11
Akkelpur	421	Road	37	43.24	29.73	27.03
..	426	Tank	25	60	40	—
Boda	1014	Rd/Emb.	22	27.27	72.73	—
..	1015	Rd/Emb.	58	3.45	96.55	—
Natore	190	Road	103	34.95	23.30	41.75
..	207	Road	32	43.75	50.00	6.25
Puthia	113	Road	111	92.79	7.21	—
..	116	Road	53	98.11	1.89	—
..	119	Road	49	95.92	4.08	—
Kachua	509	Road	32	59.38	40.62	—
..	510	Road	13	61.54	38.46	—
Manikganj	468	Road	50	32	68	—
..	469	Rd/Emb.	18	33.33	66.67	—
..	477	Emb.	33	72.73	27.27	—
Rajbari	555	Road	52	7.69	92.31	—
..	556	Rd/Emb.	52	25	75	—
..	561	Road	35	34.29	65.71	—
Sujanagar	1246	Rd/Emb.	104	42.31	57.69	—
Alamdanga	789	Road	91	34.04	65.96	—
..	790	Road	28	50	50	—
..	801	Canal	58	18.97	81.03	—
Damurhuda	794	Road	109	71.56	28.44	—
..	802	Canal	75	20	80	—

Location (Thana)	Project No	Project Type	Sample Size	Hired by		
				project Committee %	Gang Leader %	Contractor %
Laxmipur	600	Road	21	33.33	66.67	—
"	602	Road	60	16.67	83.33	—
"	604	Road	36	30.56	69.44	—
Feni	694	Road	51	96.08	3.92	—
"	1261	Rd/Emb.	81	100	—	—
Mehendiganj	941	Emb.	57	31.58	68.42	—
"	947	Canal	47	19.15	80.85	—
Bhola	805	Road	59	—	100	—
"	816	Road	58	—	100	—
"	817	Canal	12	8.33	91.67	—
All Sites			2308	53.51	42.33	4.16

3.9. Summary

A very small Percentage of woman were found to be working in men's projects. Women workers were found in Nator and Manikganj.

Sixty five percent of the labourers throughout the country were in the age group 25-45 years. The average age of the FFW labourer was found to be 30.79 years.

Migrant workers from other districts were found in four locations. In Syhet Kotwali, Gabtali Bogra, Nator Rajshahi, and akkelpur Bogra, workers from Noakhli, Rangpur, Pabna, Barisal and Rangpur respectively were found to be working. Only 6 percent of the labourers were migrant. Sixty seven percent had worked in FFWP before. The average period of experience was 3 years.

More than 53 percent of the workers had been hired by project committees, 42 percent by gang leaders and the rest by contractors.

Wheat distribution was not regular. Nearly 63 percent of the workers felt that payment was irregular. Bhola, Barisal was an exception with nearly 98 percent feeling that distribution was made at regular intervals.

IV EMPIRICAL ANALYSIS

4.1 Primary Effects

The primary objectives of the Food For Work Program are to provide relief and create employment. Evaluation of the FFWP thus requires assessment of the extent to which these objectives are being fulfilled. In this section empirical evidence will be examined to estimate the success of FFWP.

Any program, to achieve some measure of success, has to be guided by rules either written or unwritten. The FFWP is no exception. Total wheat allotment for a project includes wheat for basic earthwork, additional factors and supervision. Wheat for supervision is supposed to be given to each gang leader of 20 workers, and to each supervisor of 5 gang leaders. A gang leader with fewer than 20 workers under him is not remunerated for supervision.

4.1.1 Wheat For Supervision

In the table below is given the number of workers per gang in the projects selected for the study. The information was collected by the research officers from gang leaders. It was then verified by actually counting workers.

Table—8
Average Number of Workers Per Gang

Location	Project No.	Project Type	Total No. of gangs	No. of workers	Average workers per gang
Sylhet	918	Road	17	89	5.24
Kotwali	1253	Road	13	65	5.0
Austagram	58	Embankment	49	839	17.12
	59	Rd/Emb.	45	904	20.80
NE Zone			124	1897	15.30
Sherpur	266	Road	35	461	13.17
	267	Road	111	872	7.86
Dewanganj	368	Rd/Emb	117	1126	9.62
CN Zone			263	2459	9.35
Puthia	113	Road	49	1137	23.20
	116	Road	105	746	7.10
	119	Road	39	641	16.44

Location	Project No.	Project Type	Total No. of gangs	No. of workers	Average workers per gang
Gabtali	398	Road	250	1116	4.46
	410	Canal	52	905	17.40
Natore	207	Road	12	175	14.58
	190	Road	81	1166	14.40
Akkelpur	426	Tank	33	212	6.73
	421	Road	38	202	5.32
Boda	1014	Rd/Emb.	14	214	15.29
	1015	Rd/ n.b.	25	647	25.88
North Western Zone			698	7171	10.27
Kachua	509	Road	13	181	13.92
	510	Road	4	122	30.5
Manikganj	477	Embankment	24	301	12.54
	468	Road	30	421	14.03
	469	Rd/Emb.	10	130	13.0
Rajbari	555	Road	28	322	11.5
	556	Rd/Emb.	33	398	12.06
	561	Road	26	212	8.15
Sujanagar	1261	Rd/Emb.	65	1219	18.75
Alamdanga	790	Road	71	862	12.14
	801	Canal	34	469	13.79
	789	Road	51	795	15.59
Damurhuda	802	Canal	26	750	28.85
	792	Road	91	1000	10.99
Central Western Zone			506	7182	14.19
Lakshmipur	602	Road	24	395	16.46
	600	Road	10	143	14.3
	604	Road	12	252	21
Feni	694	Road	44	260	5.91
	1261	Rd/Emb.	74	621	8.39
Mehendiganj	947	Canal	49	774	15.80
	941	Emb.	95	860	9.05
Bhola	805	Road	34	713	20.97
	816	Road	20	280	14
	817	Canal	3	52	17.33
South Zone			365	4350	11.92
All Zones			1956	23059	11.79

In only 7 of the projects do we find an average of more than 20 workers in a gang. However the muster rolls submitted by project committees to thana authorities, as seen by research officers, showed each gang to contain 20 workers.

4.1.2 Wheat for Additional Factors and Basic Earthwork

Wheat for additional factors is supposed to be given at established rates in excess of the normal rate of payment of 3 seers of wheat per 70 cuft. of earthwork for non-women's projects (i. e. 42.86 seers per 1000 cuft.), and 3 seers of wheat per 50 cuft. of earthwork for women's projects (i. e. 60 seers per 1000 cuft.). Additional factors include lead, lift, bailing of water, adverse soil condition, jungle clearing, levelling and clod breaking, dressing and turling (see glossary).

At the sites surveyed very few workers were aware of the fact that there is an established official rate at which payment is supposed to be made for additional factors. The majority did not even know such additional factors existed. This was discovered by the research officers through worker interviews. The table below gives an idea of the percentage of workers who understood what additional factors are. Approximately 17 percent of the workers surveyed had knowledge of additional factors. Of this 17 percent only 50 percent received payment for additional factors. Payment for additional factors was made in only 10 of the selected sites. While specific rates for payment against additional factors exist (see glossary) it was not possible to ascertain if these are strictly maintained. Workers who received payment for additional factors could only state that they received wheat at a rate higher than the normal rate (seers per 1000 cuft). They could also mention the higher rates (seers per 1000 cuft). They could not, however, specify the rates received for the different types of work, that made up the total work undertaken. They could not also specify the number of leads and lifts involved. That is, it was not possible to determine the volume of work associated with the different additional factors in each site. Deducting the normal rate for basic earthwork¹ from the enhanced rates, it was possible to determine an average rate for all additional factors lumped together (Table 10). The volume of

Table-9

KNOWLEDGE OF ADDITIONAL FACTORS

Location	Project No.	Project Type	Sample Size	Percent with knowledge of additional factors
Akkelpur	421	Road	37	0
	426	Tank	25	80
Gabtali	398	Road	66	0
	410	Canal	63	22.22
Natore	207	Road	32	0
	190	Road	103	0
Boda	1014	Rd/Emb.	22	18.18
	1015	Rd/Emb.	58	24.14
Puthia	113	Road	111	0
	116	Road	53	0
	119	Road	49	0

¹ As found from the interviews.

Location	Project No.	Project Type	Sample Size	Percent with knowledge of additional factors
Alamdanga	790	Road	28	0
	801	Canal	53	1.72
	789	Road	94	0
Damurhuda	794	Road	109	19.27
	802	Canal	75	70.67
Sujanagar	1246	Rd/Emb.	104	0
Rajbari	555	Road	52	0
	556	Rd/Emb.	52	0
	561	Road	35	0
Manikganj	477	Emb.	33	57.58
	468	Road	50	42
	469	Rd/Emb.	18	0
Kachua	509	Road	32	0
	510	Road	13	30.77
Feni	1261	Rd/Emb.	81	8.64
	694	Road	51	5.88
Laxmipur	600	Road	21	33.33
	602	Road	60	20.00
	604	Road	36	16.67
Bhola	805	Road	59	15.25
	816	Road	58	1.72
	817	Canal	12	75.00
Mehediganj	841	Emb.	57	0
	947	Canal	47	0
Sylhet	918	Road	17	11.76
	1253	Road	13	15.39
Austagram	58	Emb.	62	0
	59	Rd/Emb.	68	0
Sherpur	266	Road	82	25.61
	267	Road	39	35.90
Dewanganj	368	Rd/Emb.	173	76.89
All Sites			2308	17.20

work undertaken at this rate could not however be ascertained. The workers could only specify the enhanced rate, because that is precisely the way contracts are actually made. A gang leader bargains with a project committee to fix a rate of payment for a specified work to be undertaken. An agreement is reached for the entire work at a flat rate, and not piecemeal on the basis of the different additional factors involved.

TABLE—10
RATE FOR ADDITIONAL FACTORS

Zone	Total sample workers	Location	Project No.	Project Type	No. (in parentheses) and percentage of sample workers receiving payment for addl. factors	Actual rate of payment including wheat for supervision and addl. factors (seers per 1000 cult)	Rate at which payment was meant to be made (from CARE form 7) (seers per 1000 cult)	Difference between actual rate and rate at which payment was meant to be made (seers per 1000 cult) (7) — (6) →	Average rate for additional factors (seers per 1000 cult)	Percent of total wheat allotment allocated for additional factors
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
North-Western	63	Gabtali	410	Canal	(14)22.22	47.24	55.61	8.37	3	17
	25	Akkelpur	426	Tank	(20)80.00	54.4	63.27	8.87	4.1	27
Central-Western	33	Manikganj	477	Emb.	(19)57.58	36.47	55.58	19.11	5.95	17
	50	..	468	Road	(21)42.00	42.00	58.3	16.3	18.24	21
	75	Damurhuda	802	Canal	(12)16.00	41.81	67.95	26.14	9.00	31
	109	..	794	Road	(4) 3.7	40.11	55.12	15.01	3.00	16
	13	Kachua	510	Road	(2)15.38	46.92	51.78	4.86	2.5	17
Central-Northern	173	Dewanganj	368	Rd/Emb.	(95)54.9	43.37	50.49	7.12	13.72	9
North-Western	13	Sylhet	1253	Road	(2)15.39	56.55	50.88	-5.67	7.00	10
Southern	12	Bhola	817	Canal	(8)66.67	43.50	57.55	14.05	14.00	20
All	2308				(197) 8.54				11.04	

Note: Actual rate of payment was calculated from worker interviews. From CARE form 7 it was calculated that wheat was to be given at the rate of 52.57 seers per 1000 cult. This included wheat for supervision and additional factors.

In the muster rolls submitted by the project committees, detailed records are provided of the volume of earthwork undertaken by each labourer, the exact portion that involves additional factors, and payment made against this work at the established rates. The discrepancy between the actual basis for payment and the recorded official statement establishes a possible opportunity for misappropriation.

If we refer to the average rate at which payment was being made (additional factors included) reported from the worker interviews, we find it to be considerably less than the rate that was taken into account by CARE while making allotment for basic earthwork and additional factors. This rate, at which wheat was meant to be given, was calculated from CARE form—7. It includes the wheat allotment for basic earthwork and for additional factors. And yet the average rate for all additional factors lumped together (Table 10) appears high in Manikganj (Project 468).¹ We can legitimately infer that while a few might have benefited, on an average the workers were deprived of a part of their share.

(a) Labour Productivity

Allotment of wheat for basic earthwork is made at the rate of 42.86 seers per 1000 cuft. of earth moved. Before trying to determine if this rate is maintained in the disbursement of wheat to the workers, we will in the following pages look at labour productivity, by zones and project types.

Table—11

AVERAGE HOURS WORKED PER DAY BY LOCATION (ZONE)

Location	Sample Size	2-5 Hours %	5-8 Hours %	8+ Hours %	Average (hours)
Austagram	130	0	100	—	6.76
Sylhet	30	0	18.52	81.48	8.67
NE Zone	160	0	85.99	14.01	7.13
Sherpur	121	0	0	100	10.55
Dewanganj	173	0	0	100	9.3
CN Zone	294	0	0	100	9.86
Gabtali	129	0.84	23.33	75.83	9.13
Akkelpur	62	0	25	75	9.1
Natore	135	0	100	0	6.1
Boda	80	8	53.33	38.67	5.55
Puthia	213	3.83	12.57	83.6	7.83
NW Zone	619	2.55	40.73	56.72	7.48
Kachua	45	2.4	90.5	7.1	6.38
Manikganj	101	57.44	42.56	0	4.31
Rajbari	139	0	36.69	63.31	7.76
Sujanagar	104	0	0	100	11.94
Alamdanga	180	2.78	95	2.22	6.66
Damurhuda	184	0	95.65	4.35	6.92
C & W Zone	753	1.75	69.45	28.80	7.38

¹ The maximum allowable rate for any particular allied factor, above the normal rate, is 2 mandays, i. e. 6 seers of wheat. In the above case more than one allied factor, may have been involved.

Location	Sample Size	2-5 hours %	5-8 hours %	8+ hours %	Average (hours)
Feni	132	16.07	83.93	0	6
Laxmipur	117	0	96.84	3.16	6.91
Mehendiganj	104	4	8	88	8.01
Bhola	129	1.67	0	98.33	10.39
Southern Zone	482	5.62	45.43	48.95	7.92
All Zones	2308	2.35	49.65	48.00	7.84

Table - 12

Average Hours worked per day by Project Type

Project Type	Total Sample	less than 2 hours %	2-5 hours %	5-8 hours %	8+ hours %	Average (hours)
Road	1300	0	2.16	53.54	44.30	7.67
Rd/Embankment	576	0	3.43	33.03	63.54	8.38
Embankment	152	0	3.47	64.58	31.94	6.79
Canal	255	0	0.39	62.06	37.55	7.81
Tank	25	0	0	10.53	89.47	9.74
All	2308	0	2.35	49.65	48	7.84

Since the study was carried out in the hot months of March and April, an effort was made to find out the hours worked per day in different months. A significant difference was not found, either by month or by location, or by project type. On an overall average the labourers worked for 7.84 hours per day.

Gang leaders bargain with project committees to determine the rate (seers of wheat per 1000 cuft) at which payment is to be made for a specified piece of work. The established rates of payment only come into the picture in helping project committees to set an upper limit. Agreement is reached on a flat rate of payment (seers per 1000 cuft) for the work and not piecemeal for each additional factor and basic earthwork, although the contracted piece of work may include some additional factors. Often the gang leaders do not have much bargaining power and readily accept whatever offer is made by project committees. Fresh bargaining takes place when the workers move to another point at the same site.

Labourers are usually unable to give specific information about their work. General information however is a different matter. A labourer is usually unable to specify the amount of earthwork that he is able to complete in a day. He can, however, state how much wheat he received in the last distribution, and the number of days he worked to get it. From this it is possible to compute the daily wheat earning. A labourer, can also give the rate (seers per 1000 cuft) at which he is being paid. With this information, on the rate of payment (seer per 1000 cuft), that a worker is able to supply, it is possible to estimate the average amount of earthwork completed in a day. This information, collected through worker interviews is tabulated below. It does not include calculation of additional factors.

Table-13
EARTHWORK PER DAY BY LOCATION

Location (Thana)	Sample Size	Less than 20 cuft %	Less than 45 cuft %	Less than 70 cuft %	70 cuft and % above	Average cuft
Kotwali	30	0	0	23.08	76.92	87.10
Austagram	130	8.52	30.23	24.8	36.43	52.87
NE Zone	160	7.10	25.16	24.51	43.22	55.32
Sherpur	121	0	0	0.83	99.17	147.29
Dewanganj	173	0	0	0	100	160.16
CN Zone	294	0	0	0.34	99.66	155
Gabali	129	0	0	2.33	97.67	138.01
Akkelpur	62	0	1.64	3.28	96.78	123.45
Natore	135	0	4.31	3.45	92.24	101.00
Boda	80	0	0	0	100	116.63
Puthia	213	0	0.52	32.34	67.14	91.66
NW Zone	619	0.0	1.27	15.01	83.72	95.61
Kachua	45	0	4.83	14.63	80.49	82.47
Manikganj	101	0	26.76	36.62	36.62	83.79
Rajbari	139	0	0	0	100.00	108.82
Sujanagar	104	0	0	0	100.00	130.59
Alamdanga	180	0	2.94	12.94	84.12	92.21
Damurhuda	184	1.10	1.10	7.14	90.66	90.67
C & W Zone	753	0.29	4.01	9.58	86.12	96.06
Feni	132	1.65	19.83	14.38	63.84	65.66
Laxmipur	111	0.0	0.0	2.63	97.37	139.63
Mehendiganj	104	0.0	0.0	0.0	100.00	117.89
Bhola	129	0.0	0.0	0.0	100.00	201.43
South Zone	482	0.44	5.23	4.63	89.65	112.43
All Zones	2308	0.70	4.55	9.74	85.01	105.55

Table-14
EARTHWORK PER DAY BY PROJECT TYPE

Project Type	Sample Size	Less than 20 cuft %	Less than 45 cuft %	Less than 70 cuft %	70 cuft and % above	Average cuft
Road	1300	0.33	2.72	11.53	85.42	119.2
Rd/Emb.	576	0	7.74	5.23	86.93	101.74
Embankment	152	5.88	16.13	19.85	58.09	62.81
Canal	255	0	0.41	5.71	93.83	99.06
Tank	25	0	4.00	4.00	92.00	96.40
All	2308	0.56	4.56	9.77	85.12	105.55

Austagram and Feni, with low work output per day, and Bhola with the maximum output per day, require some explanation. Wheat distributions in all three locations were witnessed. In Austagram and Feni the labourers received only part payment. Work in both locations remained suspended because the labourers refused to work until the pending balance had been adjusted. In Bhola payment was not made against earthwork. Measurement of earthwork was not reported at any of the 8 distributions witnessed at this site. Payment was made in excess of work output. Possibly adjustments were to be made at the completion of the projects. These could not be witnessed since field work had been terminated.

For a comparison between the data on average daily output calculated from interviews and the same information received at wheat distribution sites, a table is presented below showing average earthwork per day. This table is based on actual observations at 21 distribution sites.¹ As has already been mentioned it was not possible to separate the volume of basic earthwork from earthwork that involved additional factors since earthwork is undertaken at a flat rate (seers per 1000 cuft) and hence the question of distinguishng between basic earthwork and earthwork involving additional factors cannot be answered. From the interviews it was possible to isolate a rate for additional factors because the workers were able to specify a normal rate ². From the distribution sites information was received for earthwork completed and payment made at a rate agreed upon. Information on volume of earthwork associated with different additional factors could not be determined.

Using data for average output not controlled for additional factors, from interviews as well as observed distributions, a t-test was performed. Statistically there is no significant difference between work output per day calculated from information received through interviews, and work output figures reported at distribution sites. The probability that the difference between the two means lies in the range-11.66 to 35.02, is 0.95.

Table-15

Average Output and Earnings Per Day by Locations from Distributions.

Location	Amount of wheat distributed (seers) 1	Volume of earthwork (cuft) 2	Mandays 3	Earthwork per mandays (cuft) 2÷3
Austagram	44,877	1,052,850	16,823	62.59
North Eastern	44,877	1,052,850	16,823	62.58
Dewanganj	71,818	1,723,248	9,402	183.29
Central Northern	71,818	1,723,248	9,402	183.29
Natore	31,928	759,394	21,118	35.96
Puthia	13,503	350,261	2,409	137.09
Akkelpur	11,584	255,300	1,937	131.80
Gabtali	9,988	240,681	1,294	185.99
Boda	23,805	427,000	2,112	202.18
North Western	90,808	2,012,036	28,870	69.71
Manikganj	13,006	324,948	5,493	70.75

1 In the 5 other distribution sites where distribution was observed measurement of earthwork was not reported.

2 Only 8.54 percent of the workers received payment for additional factors.

Location	Amount of wheat distributed (seers) 1	Volume of earth-work (cuft) 2	Mandays 3	Earthwork per mandays (cuft) 2 ÷ 3
Rajbari	15,189	373,193	2,818	132.43
Alamdanga	65,988	1,594,221	12,385	127.91
Damurhuda	76,205	1,430,103	15,894	89.98
Sujanagar	14,900	328,766	3,239	101.50
Central Western	185,288	4,041,231	38,932	103.80
Feni	24,730	639,426	7,032	90.93
Laxmipur	4,075	133,061	1,239	107.39
Southern	28,805	772,487	8,271	93.40
All location	421,596	9,602,452	102,298	93.87

A t-test was also performed to compare the output per day computed from counting baskets of earth moved per hour at three different periods of a work day, and official output figures based on earth measurement collected at distribution sites. The difference was again not statistically significant.

Enquiring into work habits revealed that the labourers work for 5.42 days a week, on an average. This is given in the table below. Table 19 gives the number of working days in each project during the survey period and the deductions made for intervals when work was stopped.

Table—16

Number of Working Days Per Week By Location

Location	Sample Size	1day	2days	3days	4days	5days	6days	7days	Average
Kctwali	30	0	0	0	11.11	3.7	3.7	81.48	6.58
Austagram	133	9.71	0	3.88	0	.97	.97	84.47	6.23
NE Zone	160	7.69	0	3.08	2.3	1.54	1.54	83.85	6.3
Sherpur	121	0	0	10.74	11.57	8.26	10.74	58.18	6.95
Dewanganj	173	4.95	2.97	5.94	13.56	10.59	8.91	52.47	6.59
CN Zone	294	2.25	1.35	8.55	12.61	9.45	9.90	55.85	5.79
Gabtal	129	1.59	3.97	3.17	5.56	3.97	7.14	74.6	6.28
Alkalpur	62	1.72	5.17	10.34	20.69	17.24	15.52	29.31	6.10
Natore	135	12.21	10.69	7.63	10.51	3.05	9.16	46.56	4.98
Boda	60	6.25	12.5	8.75	8.75	22.5	6.25	35.00	4.88
Ruthia	213	10.47	5.76	14.14	20.42	16.23	7.33	25.55	4.51
NW Zone	619	7.5	7.33	9.21	13.49	11.60	8.36	42.49	5.08
Kachua	43	0	2.27	0	0	4.54	9.09	84.09	6.71

Location	Sample Size	1day	2days	3days	4days	5days	6days	7days	Average
Manikganj	101	0	2.13	2.13	1.06	30.85	10.64	53.19	6.05
Rajbari	139	14.39	14.39	3.6	11.51	14.39	14.39	27.34	4.8
Sujanagar	104	6.12	6.12	18.37	18.37	17.35	10.20	23.47	4.59
Alamdanga	180	1.13	1.13	11.3	5.65	17.51	20.34	42.94	5.72
Damurhuda	184	0	4.35	0.54	8.7	7.07	17.39	61.06	6.18
C & W Zone	753	3.8	5.3	6.25	8.29	15.22	15.22	45.92	5.55
Feni	132	0.79	3.15	4.72	13.39	3.94	24.41	49.61	5.88
Laxmipur	117	0.85	6.84	7.69	5.98	10.26	21.37	47.01	5.7
Mehendiganj	104	5	24	12	7	10	14	28	4.47
Bhola	129	13.18	17.83	6.98	9.3	1.55	8.53	42.64	4.64
S. Zone	482	5.07	12.47	7.61	9.09	6.13	17.12	42.49	5.2
All Zones	2308	5.17	6.71	7.4	9.97	10.8	12.39	47.55	5.42

Table-17

Earthwork Per Day By Zones from Basket Counting

Zone	Output per hour (cuft)	Output per day (cuft)
Southern	17.54	118.59
Central & Western	19.15	113.74
North Western	17.79	128.77
Central Northern	20.18	178.16
North Eastern	20.93	157.00
Total	18.69	131.57

Table-18

Earthwork Per Day By Project Type from Basket Counting

Project Type	Output per hour (cuft)	Output per day (cuft)
Road	19.88	132.21
Embankment	20.48	98.91
Road-Embankment	18.50	137.99
Canal	16.84	124.09
Tank	10.89	96.19
Total	18.69	131.57

TABLE-19

NUMBER OF WORKING DAYS IN SELECTED PROJECTS

Location	Project No.	Project Type	Labour From	Counting To	Total number of days	Total No. of days work was stopped	Total No. of working days	Reason for stopping	Total mandays
Austagram	59	Rd/Emb.	16.3.81	26.4.81	42	7	35	—	11842
Manikganj	477	Emb.	16.3.81	28.4.81	44	14	30	Rain fall	4430
Manikganj	468	Road	16.3.81	29.4.81	45	3	42	Rainfall	7415
Manikganj	469	Rd/Emb.	16.3.81	28.4.81	44	12	32	Stopped by SDO	1840
Alamdanga	790	Road	16.3.81	3.5.81	49	30	19	—	7239
Alamdanga	301	Canal	16.3.81	19.4.81*	35	—	35	—	8551
Alamdanga	789	Road	16.3.81	3.5.81	49	—	49	—	25096
Rajbari	555	Road	23.3.81	30.4.81	39	—	39	—	5670
Rajbari	556	Rd/Emb.	16.3.81	30.4.81	46	—	46	—	5495
Rajbari	561	Road	23.3.81	3.4.81	39	7	32	—	2917
Dewanganj	368	Rd/Emb.	21.3.81	30.4.81	41	2	39	Want of wheat	23501
Mehendiganj	947	Canal	16.3.81	3.5.81	49	18	31	Stopped PC	10442
Austagram	56	Emb.	16.3.81	12.4.81	28	—	28	—	11105
Natore	207	Road	18.3.81	7.5.81	50	—	50	—	2418
Natore	190	Road	20.3.81	9.5.81	51	3	48	—	13636
Kachua	509	Road	21.4.81	30.4.81	10	—	10	—	1716
Kachua	510	Road	21.4.81	30.4.81	10	—	10	—	723
Boda	1014	Rd/Emb.	20.3.81	26.4.81	45	—	45	—	4988
Boda	1015	Rd/Emb.	16.3.81	30.4.81	46	20	26	Stopped by Pc	4601

Note : Total mandays from interviews differs from total mandays from distributions observed because

(1) all distributions were not seen

(2) some distributions included periods of work when the study had not begun.

* work remained suspended after 19.4.81, due to accumulation of rain water

Name of Location	Project no.	Project type	Labour from	Counting to	Total no. of days	Total no. of days work was stopped	Total no. of working days	Reason for stopping	Total mandays
Bhola	805	Road	23.3.81	4.5.81	43	—	43	—	11620
Bhola	816	Road	27.4.81	10.5.81	14	—	14	—	2688
Bhola	817	Canal	28.4.81	2.5.81	6	—	6	—	312
Akkelpur	426	Tank	10.3.81	2.5.81	48	2	46	rainfall	3722
Akkelpur	421	Road	16.3.81	16.4.81	32	—	32	—	3523
Sherpur	266	Road	16.3.81	3.5.81	49	—	49	—	5375
Sherpur	267	Road	16.3.81	3.5.81	49	—	49	—	13203
Sujanagar	1246	Rd/Emb.	16.3.81	5.5.81	51	2	49	—	22751
Mehendiganj	941	Rd/Emb.	23.3.81	5.5.81	42	—	42	—	16671
Puthia	113	Road	18.3.81	2.5.81	46	—	40	—	15756
Puthia	119	Road	18.3.81	28.4.81	42	14	28	want of wheat	6227
Pathia	116	Road	18.3.81	28.4.81	42	19	23	..	6076
Sylhet	1253	Road	23.3.81	26.4.81	35	7	28	Rainfall	1037
Sylhet	918	Road	23.3.81	12.4.81	21	—	21	—	1288
Damurhuda	802	Canal	16.3.81	30.4.81	46	4	42	—	16948
Damurhuda	794	Road	16.3.81	3.5.81	49	7	42	—	16001
Feni	1261	Rd/Emb.	19.3.81	25.4.81	38	—	38	—	14589
Feni	694	Road	20.3.81	14.4.81	26	—	26	—	3208
Laxmipur	604	Road	19.3.81	29.4.81	42	—	42	—	3162
Laxmipur	602	Road	16.3.81	29.4.81	45	—	45	—	9812
Laxmipur	600	Road	18.3.81	29.4.81	43	—	43	—	2509
Gabtali	398	Road	18.3.81	2.5.81	46	—	46	—	10261
Gabtali	410	Canal	16.3.81	26.4.81	42	—	42	—	16620

Table-20

Number of Working Day Per Week By Project Type

Project Type	Sample size	1 day %	2 days %	3 days %	4 days %	5 days %	6 days %	7 days %	Average days
Road	1300	5.92	6.87	7.58	10.66	10.5	12.87	45.62	5.34
Rd/Emb.	576	6.17	4.73	8.44	11.32	13.37	11.52	44.44	5.33
Embankment	152	0	6.56	3.28	3.28	16.39	13.93	56.56	5.98
Canal	255	2.39	10.35	6.77	7.17	3.93	10.36	58.96	5.67
Tank	25	0	0	4.76	9.52	19.05	19.05	47.62	5.95
All	2308	5.17	6.71	7.4	9.97	10.8	12.39	47.55	5.42

(b) Wheat Earnings

A look at the earnings in the selected projects shows that in some thanas the average market wage rate over the study period expressed in wheat terms (using the average price of wheat over the study period), was actually lower than the daily wheat earnings from food for work. In such locations labourers were easily available. In other locations like Austagram and Feni where the market wage rate was considerably higher, project committees tried to hang on to labourers by making part payment, in the hope that labourers would not leave without collecting their dues.

Table-21

Wheat Earnings Per Day By Location

Location	Sample size	Less than 1 seer %	Less than 2 seers %	Less than 3 seers %	3 seers and % above seers	Average	Market wage rate in wheat terms (seers)
Kotwali*	30	0	0	7.41	92.59	4.48	8.00
Austagram	130	8.52	39.53	18.6	33.33	2.1	11.88
NE Zone	160	7.05	31.69	16.66	43.58	2.28	10.47
Sherpur	121	0	0	0.94	99.06	6.18	5.73
Dewanganj	173	0	0	0	100	6.61	4.71
CN Zone	294	0	0	0.36	99.64	6.44	5.24
Gabali*	129	0	0	0	100	6.07	4.38
Akelpur	62	0	0	9.84	91.16	5.67	4.42
Natore*	135	0	0	3.33	96.67	4.22	4.69
Boda*	80	0	0	3	97	4.75	3.69
Puthia	213	0	2.03	38.58	59.39	3.76	4.22
NW Zone	619	0	0.7	15.36	83.94	4.97	4.07
Kachua	45	0	0	4.88	95.12	4.10	3.92
Marikganj	101	0	25.74	15.84	58.42	3.22	4.00
Raibari	139	0	0	0.72	99.28	4.27	4.29
Sujanagar	104	0	0	0	100	5.07	5.63
Alamdanga	180	0	4.05	16.76	79.19	3.74	6.67
Gamuhuda	184	0.54	2.2	14.13	83.15	3.7	2.73
C & W Zone	753	0.14	5.05	10.11	84.7	3.86	4.59
Feni	132	3.3	15.7	15.7	65.29	2.68	6.36
Laxmiour	117	0	5.13	3.15	94.87	4.35	4.66
Mehendiganj	104	0	0	0	100	5.17	5.19
Bhola*	129	0	0	0	100	7.25	4.58
Southern	482	0.86	4.18	5.49	89.45	4.09	5.2
All Zones	2308	0.73	5.06	9.75	84.46	4.25	

* Payment in cash expressed in wheat

Table-22

SEERS PER DAY PROJECT TYPEWISE

Project Type	Sample size	Less than 1 seers %	Less than 2 seers %	Less than 3 seers %	3 seers and above %	Average seers
Road	1300	0.24	2.51	11.89	85.36	4.64
Rd/Emb.	576	0.93	7.59	5.00	86.48	4.11
Fmbankment	152	5.71	27.14	13.57	53.57	2.49
Canal	255	0	0.39	7.87	91.73	4.32
Tank	25	0	0	4.00	96.00	5.06
All	2308	0.73	5.06	9.75	84.46	4.25

Table-23

WHEAT EARNINGS COMPARED

Location	Average wheat earnings per day from distributions (seers per day)	Average wheat earnings per day from interviews (seers per day)
Kotwali	-	4.46
Austagram	2.67	2.1
NE Zone	2.67	2.28
Sherpur	-	6.18
Dewanganj	7.64	6.61
CN Zone	7.64	6.44
Gabali	9.92	6.07
Akhepur	5.98	5.67
Natore	1.51	4.22
Boda	-	4.75
Puthia	5.61	3.76
NW Zone	3.15	4.97
Kachua	-	4.10
Manikganj	2.83	3.22
Rajbari	5.39	4.27
Sujanagar	4.60	5.01
Damurhuda	4.79	3.7
C & W Zone	4.76	3.86
Feni	3.52	2.68
Laxmipur	3.29	4.35
Mehendiganj	-	5.17
Bhola	-	7.25
S Zone	3.48	4.09
All Zone	4.12	4.24

A comparison between wheat earnings per day as seen from distribution data, and wheat earnings per day calculated from information received through worker interviews tells us that statistically there is no significant difference between the two. Distributions were observed to confirm the findings from the interviews. At the distribution sites wheat was found to be distributed to gang leaders at a flat rate of payment (seers per 1000 cult) previously agreed upon by them and the project committee. Workers hang round in the background, waiting to receive their shares from the gang leaders. Project committees keep a record of the wheat distributed to each gang leader and the earthwork completed. It may be mentioned once again that the earthwork recorded is not classified on the basis of basic earthwork and earthwork involving additional factors. A record is kept by project committees of the actual number of workers per gang and the number of days they worked. This is obtained from gang leaders, who subsequently divide the wheat received among their workers. The records of the actual distributions are not submitted by project committees to thana authorities. Muster rolls prepared on the basis of these records are submitted to thana authorities. Muster rolls give detailed accounts of each worker, the volume of basic earthwork undertaken, the volume of earthwork undertaken involving additional factors, and payment received against each. Thumb impressions of workers are shown against receipt of payment. It is worth noting that according to the Research Officers, thumb impressions are not taken during the actual distributions. Unfortunately the Research Officers were not allowed to observe all the distributions, and these findings relate only to the period March-April 1981 when field work was carried out.

(c) Payment of Commission

The formally established rate of payment described earlier does not necessarily equate to the actual payment made to labourers. A downward adjustment is required to account for payments made by labourers to employing agents. Questions directed at determining the benefits to employing agents revealed an interesting trend. About one worker in seven admitted having paid a commission to employing agents. A few workers in project 801 (Alamdanga) mentioned that they made payments to employing agents after each distribution. There was however no overall fixed rate at which such payment was made. The majority of the workers said that employing agents did not benefit in any way by bringing workers to the projects. But the fact that the workers were not surprised by the question gives some food for thought.

Table--24

PERCENT PAYING COMMISSION BY LOCATION

Location	Number of sample workers	No. (in parentheses) and percent paying commission
Sylhet	30	(1) 3.33
Austagram	130	(0) 0
Sherpur	121	(0) 0

1 Using t-test

2 With minor exceptions as noted, when cash was given.

Location	Number of sample workers	No. (in parentheses) and percent paying commission
Dewanganj	173	(30) 17.34
Boda	80	(46) 57.50
Gabtali	129	(7) 5.43
Akkelpur	62	(0) 0
Natore	135	(53) 39.26
Puthia	213	(0) 0
Alamdanga	180	(17) 9.44
Damurhuda	184	(0) 0
Sujanagar	104	(0) 0
Rajbari	139	(0) 0
Manikganj	101	(15) 14.85
Kachua	45	(0) 0
Feni	132	(0) 0
Lakshmipur	117	(38) 32.48
Bhola	129	(126) 97.67
Mehendiganj	104	(0) 0
All	2308	(333) 14.43

(d) Output Vs Earnings

Our findings from the worker interviews show that the average food for work labourer cuts 105.55 cuft of earth per day, and actually receives 4.25 seers of wheat, i. e. 40.27 seers per 1000 cuft of earthwork, or 2.82 seers per 70 cuft. This includes payment if any, made for additional factors.

In the table below, average rate of payment calculated from worker interviews has been compared to the average rate of payment from 21 distribution sites. Statistically there is no significant difference between the two^o.

Table-25
AVERAGE RATE OF PAYMENT COMPARED

Location	Project No.	Project Type	Average rate of payment from interviews (seers per 1000 cuft)	Average rate of payment from distributions (seers per 1000 cuft)
Kotwali Sylhet	1253	Road	56.55	-
	918	Road	44.35	-

^o t-test was used.

Location	Project No.	Project Type	Average rate of payment from interviews (seers per 1000 cu't)	Average rate of payment from distributions (seers per 1000 cuft)
Austagram	59	Rd/Emb.	41.75	45.28
	58	Emb.	39.37	40.19
Sherpur	267	Road	40.36	-
	266	Road	34.37	-
Dewanganj	68	Rd/Emb.	43.37	41.68
Boda	1014	Rd/Emb.	40.18	55.75
	1015	Rd/Emb.	38.68	-
Gabtali	410		47.24	-
	398	Road	40.00	41.40
Akkelpur	426	Tank	54.40	38.92
	421	Road	39.86	49.09
Natore	207	Road	38.42	42.04
	190		38.00	42.67
Puthia	116	Road	40.08	41.53
	119	Road	40.00	39.29
	113	Road	40.09	-
Alamdanga	790	Road	40.75	39.17
	801	Canal	40.76	-
	789	Road	39.65	41.88
Damurhuda	794	Road	40.11	-
	802	Canal	41.81	53.29
Sujanagar	1246	Rd/Emb.	38.22	45.32
Rajbari	555	Road	39.90	39.87
	556	Rd/Emb.	36.17	43.66
	561	Road	40.00	-
Manikganj	468	Road	42.00	-
	469	Rd/Emb.	40.33	-
	477	Emb.	36.47	40.02
Kachua	509	Road	50.00	-
	510	Road	46.92	-
Feni	694	Road	41.57	42.70
	1261	Rd/Emb.	40.66	37.80
Laxmipur	604	Road	30.28	-
	602	Road	34.75	30.63
	600	Road	37.57	-
Bhola	805	Road	42.00	-
	816	Road	35.69	-
	817	Canal	43.50	-
Mehendiganj	941	Emb.	40.36	-
	947	Canal	47.90	-

Note : In the 6 other distribution sites where distribution was observed measurement of earthwork was not reported.

In the 42 locations total allotment of wheat was 213310 mds. This included wheat for basic earthwork, supervision, and additional factors. The volume of earthwork involved was 162,303,737 cuft. That is, on an average wheat was to have been distributed at a rate of 52.57 seers per 1000 cuft of earthwork.

Final figures of wheat utilisation, and volume of earthwork reported in the 936 CARE Projects (excluding the Women's Projects and the Consolidated Rate Experiment Projects) show wheat to have been distributed at the rate of 51.97 seers per 1000 cuft of earthwork**.

From the 73 distributions actually observed at 21 sites^o it was found that wheat was distributed at an average rate of 43.89 seers per 1000 cuft. Using these figures it would seem that, excluding the women's projects and the Consolidated Rate Experiment (CRE) Projects, workers¹ were receiving 8.68 seers less per 1000 cuft than they were entitled to. For the total earthwork of 2,621,714,974 cuft** in 936 projects this would come to 22756485.97 seers or at Tk. 2.50 per seer², nearly Tk. 56,891,215.00 (US \$ 3,792,748.00 at the rate of Tk. 15 per US\$).

Besides providing wheat, the FFWP is also expected to create employment. According to the Project Acceptance Report (CARE form 7) the number of mandays created by the earthwork in the 42 sample projects was calculated on the basis of 60 cuft per manday. The officially accepted output per day however is 70 cuft³. Using the figure for the total proposed earthwork excluding women's projects and CRE projects, received from USAID, and output at 70 cuft. per manday, total employment created by the CARE projects⁴, comes to 37,453,071 mandays. Using the overall output rate of 93.87 cuft per day, as found from the 73 distribution sites, the total employment created comes to 27,929,210 mandays⁵. Using the output rate of 105.55 cuft per manday^o, found from the interviews, total employment created comes to 24,838,607 mandays. Using the output rate of 131.57 cuft per manday as found from basket counting, total employment created comes to 19,926,389 mandays.

Assuming output to be 60-70 cuft of earthwork per manday, it is possible to show that 35.45 million mandays of employment are created. Labour productivity was, however, found to be higher than it is assumed to be in official calculations as indicated from the interviews as well as from the distributions actually seen. Employment was found to be created either at the rate of 217 mandays per metric ton of wheat (from distributions actually observed) or 193 mandays per metric ton of wheat (from interviews). Officially, employment is created at the rate of 291 mandays per metric ton.

^o 86 distributions at 26 sites were actually observed. Among them 13 distributions at 5 sites did not report measurement of earthwork.

** From CARE, form-11, summarized by USAID computer print out.

1. Including gang leaders who worked

2. Average rate during the study period.

3. Payment for one manday is 3 seers of wheat. This is also the amount payable for 70 cuft of earthwork.

4. Estimate based on 42 projects.

5. Excluding women's projects and CRE projects.

Output per day (in cuft)	Employment created per metric ton of wheat (mandays)
70	291
93.87	217
105.55	193

4. 2. Secondary Effects

The prime objective of the present study was to evaluate the primary effects of food for work projects. An opinion survey was also designed¹ to find out what the workers felt about the utility or otherwise of the projects they were helping to construct. For a proper assessment of the secondary effects of food for work projects, research should be undertaken at least 3 years² after the completion of the concerned projects, so that they will have been in existence for a sufficiently long time to have had some effect on the lives of people in the surrounding areas.

4 2. 1. North Eastern Zone.

In the North Eastern Zone 4 projects were selected for study. There were two road projects in Sylhet and an embankment and a road cum embankment in Austagram. More than 99 percent of the workers felt that the projects would be beneficial.

Table-26
PROJECT EFFECTIVENESS

Location	Project No.	Project Type	Sample Size	Project is harmful (Number)	Project is beneficial (Number)
Austagram	58	Embank.	62	0	62
"	59	Rd/Emb.	68	0	68
Sylhet	1253	Road	13	0	13
"	918	Road	17	1	16
North Eastern Zone			160	1	159

Only 1.54 percent of those interviewed in Austagram thought that value of nearby land would increase.

1. At the request of the Ministry of Relief and Rehabilitation.

2. Recommended by H. Brundin in "FFW Secondary Effect, Methodology Study", USAID, Dacca, May 1979

Among those who felt that the projects would be beneficial, 83.85 percent in Austagram thought that crop production would increase. The sampled workers in Sylhet quite understandably did not think that the road projects would increase crop production.

Table-27
PROJECT BENEFITS

Location	Project No.	Project Type	Sample Size	Will increase value of nearby land %	Will increase crop production %	Will increase marketability of farm product %	Will increase the demand for labour %
Austagram	58	Emb.	62	3.23	93.55	100	100
..	59	Rd/Emb.	68	0	75	98.53	100
Sylhet	1253	Road	13	0	0	100	100
..	918	Road	17	0	0	94.12	94.12
NE Zone			160	1.25	68.13	98.75	99.38

It is interesting to note that although there are embankment and road cum embankment projects in Austagram, no one expected a reduction in crop loss caused by flooding. Almost everyone however, expected these projects to increase marketability of farm products by providing improved means of communication.

The utility of roads in Sylhet seems well established, since a very high percentage of the workers in this thana expected the marketability of farm products to go up and the demand for labour to increase. Nearly 6 percent of the labourers in project 918, in Sylhet, felt that the project would be harmful for everybody. In the north eastern zone more than 99 percent of the workers said that the projects would benefit the people. Of them 98.75 percent thought that benefit would be reaped by all. A negligible 0.6 percent thought it would benefit the rich. The majority of workers in Sylhet and Austagram were thus found to state that the projects would be beneficial. That is, they felt that the continued existence of the FFWP would somehow or other benefit them.

Seventy two percent of the workers in Austagram sold wheat they received. They all said that they needed cash. Payment in Sylhet was made in cash. This was found from the worker interviews.

4.2.2. Central Northern Zone.

Three projects in the central northern zone were selected for the study. Two were road projects in Sherpur, and the third was a road cum embankment in Dawanganj. None of the workers felt that the projects would increase the value of nearby land.

Table—28

PROJECT EFFECTIVENESS

Location	Project No.	Project Type	Sample Size	Project is harmful %	Project is beneficial %
Sherpur	266	Road	82	0	100
"	267	Road	39	0	100
Dewanganj	368	Rd/Emb.	173	1.73	98.26
Central Northern Zone			294	1.02	98.98

Nearly 99 percent of the people in this zone felt that the projects would benefit everybody. Among them only 9.62 percent thought that crop production would increase. A possible explanation may be that basically all the three projects were roads. The road cum embankment project in Dewanganj improved communication in the area, but as an embankment its function was dubious since 4 rivers crossed it. Hardly 11 percent in Dewanganj thought that crop production would increase.

Table—29

BENEFITS OF PROJECTS

Location	Project No.	Project Type	Sample Size	Will increase crop production %	Will increase marketability of farm production %	Will increase demand for labour %
Sherpur	266	Road	82	14.87	98.78	100
"	267	Road	39	0	100	100
Dewanganj	368	Rd/Emb.	173	10.5	98.27	98.27
Central Northern Zone			294	9.53	98.64	98.98

It is worth noting that in this zone workers who thought that projects were beneficial, were unanimous in their belief that the roads and road cum embankments would increase marketability of farm products.

Only 1.73 percent of the workers in Dewanganj felt that the project would be harmful to the people living nearby.

Seventy five percent of the workers in Sherpur, and nearly 30 percent in Dewanganj sold the wheat they were paid. They needed the cash.

4. 2. 3. North Western Zone

In the North Western Zone 11 projects had been selected for the study. There were 7 road projects, two road cum embankments, one canal and one tank project. No worker expected the value of nearby land to increase because of the projects.

Table-30
PROJECT EFFECTIVENESS

Location	Project No.	Project Type	Sample Size	Project is harmful %	Project is beneficial %
	398	Road	66	10.61	89.39
Gabtalj	410	Canal	63	7.94	92.06
	421	Road	37	8.11	91.89
Akkelpur	426	Tank	25	0	100
	207	Road	32	28.13	71.87
Natore	190	Road	103	11.65	88.35
	1014	Rd/Emb.	22	4.55	95.45
Boda	1015	Rd/Emb.	58	10.34	89.66
	113	Road	111	14.41	85.59
Puthia	116	Road	53	9.43	90.57
	119	Road	49	8.17	91.83
North Eastern Zone			619	10.98	89.02

Of the 89 percent who believed that the projects would be beneficial nearly 32 percent said that crop production would increase as a result of the projects. It is noteworthy that, among the workers who believed that the projects would be beneficial, 100 percent in the canal project at Gabtalj felt that crop production would increase.

Table-31
PROJECT BENEFITS

Location	Project No	Project Type	Sample Size	Will increase crop production %	Will increase marketability of farm product %	Will increase the demand for labour %
Gabtalj	398	Road	66	0	89.39	89.39
	410	Canal	63	92.06	0	92.06
Akkelpur	421	Road	37	5.41	86.49	91.89
	426	Tank	25	44	0	100
Natore	207	Road	32	21.88	71.88	71.88
	190	Road	103	29.13	88.35	88.35
Boda	1014	Rd/Emb.	22	68.88	81.84	95.45
	1015	Rd/Emb.	58	62.67	84.48	89.66
	113	Road	111	9.01	85.59	85.59
Puthia	116	Road	53	33.96	88.68	90.56
	119	Road	49	18.37	91.84	91.84
North Western Zone			519	31.66	74.15	89.01

Workers who expected the projects to be beneficial stated that communications would improve, leading to increased marketability of farm products.

Among the 68 workers who were sceptical about the success of the projects, 37 thought that the projects would harm the rich. A possible explanation of this anomaly seems to be that having once come out with what was in their mind, the workers had second thoughts and covered up in a manner that appealed to them. Twelve workers thought that the people living nearby would bear the burden, while 6 thought everybody would be affected. The rest felt that the poor would be hurt most.

Seventy three percent of the labourers felt that everybody would benefit from the projects. Thirteen percent felt that the people living nearby would benefit. Nearly 3 percent felt it would benefit the poor, while 4 percent thought that the rich would benefit.* Twenty six percent of the workers admitted selling wheat. The reason given was that they needed the cash. About 1 percent gave such reasons as poor quality wheat, lack of storage facility, and that their family did not like wheat.

4.2.4. Central & Western Zone

Of the 17 projects selected in this zone, work on three was suspended during the period of survey. There were eight road projects, three road cum embankments, two canals and one embankment.

No one expected the value of nearby land to go up on completion of the projects. Among the 82.45 percent who thought that the projects would be beneficial, nearly 34 percent thought that crop production would increase. One hundred percent of the workers in the canal project at Damurhuda thought that production would go up. Nearly 71 percent in the canal project at Alamdanga thought likewise.

Table-32

Project Effectiveness					
Project Location	Project No.	Project Type	Sample Size	Project is harmful %	Project is beneficial %
Sujanagar	1246	Rd/Emb.	104	60.58	39.42
Alamdanga	789	Road	94	1.06	98.94
	790	Road	28	0	100
Manikganj	801	Canal	58	10.34	89.66
	477	Emb.	33	18.75	81.25
	468	Road	50	0	100
Rajbari	469	Rd/Emb.	18	0	100
	556	Rd/Emb.	52	42.31	57.69
	555	Road	52	30.77	69.23
Damurhuda	561	Road	35	25.71	74.29
	802	Canal	75	0	100
	794	Road	109	0	100
Kachua	510	Road	13	0	100
	509	Road	32	28.12	71.88
Central & Wesren Zone			753	17.55	82.45

* The workers did not restrict their answers to a single group, so percentages do not total 100%.

Table-33
Project Benefits

Location	Project No.	Project Type	Sample Size	Will increase crop production	Will increase marketability of farm product %	Will increase the demand for labour %
Sujanagar	1246	Rd/Emb.	104	30.77	39.42	39.42
Alamdanga	789	Road	94	97.85	95.74	98.94
	790	Road	28	3.57	89.29	100
	801	Canal	58	70.69	1.72	84.48
Manikganj	477	Emb.	33	0	78.79	78.79
	568	Road	50	0	100	100
	469	Rd/Emb.	18	0	100	100
Rajbari	556	Rd/Emb.	52	9.62	57.69	57.69
	555	Road	52	9.62	69.23	69.23
	561	Road	35	8.57	74.29	74.29
Damurhuda	802	Canal	75	100	0	100
	754	Road	109	0	100	100
Kachua	510	Road	13	7.69	100	100
	509	Road	32	0	71.86	71.86
Central & Western Zone			753	33.73	73.57	94.95

Eight percent of the workers expected the projects to harm the poor. Seven percent thought that people living nearby would be badly affected. Strangely enough almost 7 percent thought that the rich would be harmed by the projects. As regards benefits nearly 62 percent were rather vague and said that everyone would benefit, 28 percent saw benefits accruing to people living nearby, while nearly 7 percent thought that the rich would benefit.

More than 56 percent said that they had sold their wheat. The common reason given was that they needed the cash.

4.2.5 Southern Zone

Ten projects were selected from this zone for the study. There were 6 road projects, two canals, one embankment one road cum embankment. Less than 0.5 percent of all the workers in the zone said that value of nearby land would increase. Nearly 97 percent of the workers said that the projects would be of benefit. Among them 35 percent thought that crop production would go up. While 91.67 percent of the workers in canal 817 in Bhola said that crop production would increase only 27.65 percent in the canal project at Mehendiganj were of the same opinion.

Table - 34
Project Effectiveness

Location	Project No.	Project Type	Sample Size	Project is harmful %	Project is beneficial %
Feni	1261	Rd/Emb.	81	0	100
	694	Road	51	0	100
Bhola	805	Road	59	0	100
	816	Road	58	1.72	98.28
	817	Canal	0	0	100
Mehendiganj	941	Emb.	56	8.77	91.23
	947	Canal	47	14.89	85.11
Laxmipur	604	Road	35	2.78	97.22
	602	Road	52	3.33	96.67
	600	Road	21	0	100
Southern Zone			482	3.32	96.68

Table—35
Project Benefits

Location	Project No.	Project Type	Sample Size	Will increase crop production	Will increase value of nearby land	Will increase marketability of farm products	Will increase the demand for labour
				%	%	%	%
Feni	1261	Rd/Emb.	81	65.43	0	34.57	100
	694	Road	51	1.96	0	98.04	100
Bhola	805	Road	59	3.39	0	96.61	100
	816	Road	58	0	0	98.28	98.28
	817	Canal	0	0	91.67	0	100
Mehendiganj	941	Emb.	56	42.11	3.51	40.35	91.22
	947	Canal	47	27.66	0	68.09	85.11
Laxmipur	604	Road	35	52.78	0	97.14	97.14
	601	Road	52	58.33	0	96.55	96.55
	600	Road	21	52.38	0	100	190
Southern Zone			482	35.06	0.41	74.9	96.68

Nearly 75 percent of the workers said that everybody would be benefitted by the projects. Forty two percent of the workers said that people living nearby would benefit. About 4 percent mentioned the poor, and 1.45 percent the rich. Among the dissenters; nearby 3 percent felt that the poor and people living nearby would be badly affected.

Nearly 27 percent of the workers sold wheat because they needed the money.

A consideration now of the opinion of the workers in different types of projects will give us deeper insights into the perceived utility of those FFW Projects.

Table—36
Project Effectiveness

Projects	Number	Sample Size	Project is harmful	Project is beneficial
			%	%
Road	25	1300	7.38	92.62
Embankment	3	152	7.24	92.11*
Road cum Emb	8	576	16.49	83.51
Canal	5	255	7.06	92.94
Tank	1	25	0	100

Overall a large majority of the workers feel that the FFW projects will be beneficial. There are however some who disagree. The percentage of dissenters is highest in road-cum-embankment projects. But this figure has been affected by the high number of workers who thought that the project would be harmful, in project 1246, in Sujanagar, Pabna. Excluding this project, the percentage of workers stating that road cum embankment projects would be harmful is 6.78.

It is interesting to note that only a very small percentage of the workers felt that the value of land near a project would increase as result of the project. Almost 75 percent of the workers who stated that projects would be beneficial could only say rather vaguely, that everybody would benefit.

* One person did not give his opinion.

Table-37
PROJECT BENEFITS

Projects	Number	Sample Size	Will increase value of nearby land %	Will increase crop production %	Will increase marketability of farm product %	Will increase the demand for labour %
Road	25	1300	0	12.77	91.69	92.62
Embankment	3	152	2.63	53.95	73.03	92.11
Road-cum - Embankment	8	576	0	36.46	73.09	83.51
Canal	5	255	0	73.33	12.94	91.77
Tank	1	25	0	44.00	0	100

It was decided that any benefit specified in the questionnaire would be interpreted as an increase in the demand for labour, excepting the one that mentioned facilitating bathing and washing. Any combination of benefits 1, 2, 3, 5, 6, 7, 8, [see questionnaire, appendix, Question 23, b (2)] was interpreted as an increase in crop production.

The embankments are obviously going to be used as roads, since 73 percent of the workers felt that embankments would improve communication with markets. When the workers, who expected the embankment project to benefit people, were asked to specify the nature of benefits, no one mentioned reduction of crop loss through flooding.

More than 73 percent of the workers in canal projects stated that crop production would increase. This was significantly higher* than the figures in other projects.

Nearly 92 percent of the workers in road projects said that communication with markets would improve. This was also significantly higher* than the percentages in other projects.

Apparently roads and canals are expected to serve the purposes for which they were constructed.

There was only one tank project actually included in the study. We cannot therefore make any comments on tanks, on the basis of the present study.

* Statistically significant at 1% level. (Chi Square test was used)

V CONCLUSION

The food for work program has tremendous potential to create employment, provide the needy with food and construct public works that benefit the people in rural areas.

This potential has not however been achieved, principally due to certain drawbacks inherent in the system. When allotment of wheat is made for a project, specific mention is made (Project Acceptance Report, CARE form-7) of the allocations for supervision, basic earthwork and additional factors. In the muster rolls submitted by project committees detailed records are given of the number of persons employed, their output (basic earthwork and additional factors separately) and thumb impressions acknowledging receipt of wheat, number of workers to a gang, and the number of days worked. Payment for supervision was meant for each gang leader of 20 workers, and for each supervisor of 5 gangs. The muster rolls invariably show each gang to consist of exactly 20 workers. Our findings, from actual labour counting, show that on an average there are only 12 workers in a gang. Payment of wheat for earthwork is made to gang leaders and not to individual labourers. Since work is done in a group it is not possible to determine individual accomplishments. Moreover the actual payment is made at a flat rate (seer per 1000 cuft). A gang leader bargains with a project committee to fix a rate at which he will undertake work. The established rates of payment only help the committee to set the upper limit. The lower limit depends upon the gang leader's bargaining strength. The work undertaken may or may not include additional factors. The gang gets paid at a flat rate for the entire work. Hence it is not possible to distinguish between payment made for basic earthwork and additional factors. In muster rolls, it may be mentioned, payments, calculated at the officially established rates, are shown as given to individual labourers for basic earthwork and additional factors.

As has been mentioned earlier the fieldwork was cut short on the recommendation of the USAID study monitor hired to assist in the execution of the study. Hence final distributions could not be observed¹. Rate of payment (seers per 1000 cuft) for the distributions observed was calculated by using amounts of wheat actually observed to be distributed and earthwork completed. Now, since final distributions could not be observed¹ it is not possible to comment on the few cases where partial or advance payment had been made and hence adjustments may have been effected at project completion. However the workers, when interviewed, could mention the rate (seers per 1000 cuft) at which they had agreed to complete a given job. A comparison between the average rate (seers per 1000 cuft) stated in worker interviews, and the rate at which wheat was to have been given (CARE form-7) shows clearly that the contracted amounts were on an average 12.30 seers less per 1000 cuft of earthwork than the entitlement. Therefore the question of adjustment is irrelevant since the discrepancy is the rate of payment.

1. Final distribution was observed in Manikganj project 477.

Even this is not the last word on wheat earnings of labourers. A further downward adjustment is required to account for commissions paid to employing agents. While only 14.43 percent admitted having paid a commission, this probably does not represent the whole truth, since the workers who made the admission were probably no different from the other workers in the same gangs, having been brought to work by the same employing agents. It may also be noted that the majority of the workers were local.

As regards creation of employment, it was found that labour productivity has been underestimated. The creation of employment calculated on the basis of an individual worker's daily output of 70 cuft of earthwork, thus leads to gross overestimation. Employment was found to be created at a rate between 190 and 220 mandays per metric ton, which is considerably less than the officially accepted rate of 291 mandays per metric ton.

The majority of the workers interviewed felt that the projects would be beneficial. When pressed to identify the beneficiaries of the projects however, they were rather vague, saying "everyone" would benefit.

Apparently workers could visualise their hardship if the FFWP was stopped. Feeling therefore that favourable comments from them would preserve the status quo, they did not hesitate to put in a good word for the projects. Their interest quite naturally is in the direct benefit to them in the form of employment. The results from the worker opinion survey show that the workers expected increased marketability of farm products from roads, embankments and road cum embankments. While it is strange that no one mentioned reduction of crop loss through flooding as benefits from embankments, the utility of embankments and road cum embankments as the basis of an improved communications network is apparent.

The major shortcoming of the FFWP is the system of wheat allotment. Wheat allotment for a project is made up of specific allotments for basic earthwork, additional factors and supervision. But as has already been noted earthwork in the projects is undertaken on the basis of verbal agreement regarding volume of work and rate of payment (seer per 1000 cuft). Whatever the allotment of wheat in a project, payment to labourers is made on the basis of local agreement made before work is undertaken regardless of any other rates that may be Publicized. The established rates of payment only help the project committees to set an upper limit while bargaining with gang leaders. Agreement on rate of payment for a particular piece of work is reached after bargaining between gang leader and project committee. Fresh bargaining takes place when a gang completes work in one spot and moves to another.

If wheat allotment to projects, is reduced drastically, projects will not be undertaken. On the other hand, if wheat allotment is maintained at a high level, the existing irregularities noted in this study cannot be curbed. One way out of this impasse may be to reduce wheat allotment, taking into consideration the higher productivity of labour, and making provision for a payment to project committees for general supervision.

Glossary

- Adverse soil** - Hard, sandy, slushy soil. Payment is made at the rate of two mandays per 1000 cuft. of earthwork.
- Bailing of water** - Hand bailing of water. Payment is made at the rate of 2 mandays per 1000 cuft. of earthwork benefitted.
- Dressing and turling** - Placing grass turf on slopes of an embankment or road. Payment is made at a rate of 2 mandays per 1000 sq.ft of surface area affected.
- Jungle clearing** - Payment is made at the rate of 2 mandays per 1000 sq.ft of surface area affected.
- Lead** - Horizontal distance earth is carried. Payment is made at a rate of 1.5 mandays for 1000 cuft of earthwork for each additional 50 feet lead segment, over the initial 100 feet of basic lead.
- Levelling and clod Breaking** - Levelling and compacting the surface of an embankment or road. Payment is made at a rate of 2 mandays per 1000 sq. ft of surface area affected.
- Lift** - Vertical distance earth is lifted. Payment is made at a rate of 1 manday per 1000 cuft of earthwork for each additional 3 feet segment above the basic 5 feet.

APPENDIX-A

PROJECT PROGRESS AT A GLANCE

Thana	Project No.	Project Type	Date project started	Amount of wheat distributed until April 30 (mds)	Total amount of wheat allotted (mds)	Percentage of wheat distributed by April 30, 1981
Kotwali	918	Road	25-1-81	2,946	3,505	84%
	1253	Road	1 2-81	1,549	3,292	47 ..
Austagram	58	Emb.	1-2-81	4,502	5,598	80 ..
	59	Rd/Emb.	15-1-81	3,749	4,927	76 ..
Sherpur	266	Road	10-2-81	3,400	4,083	83 ..
	267	Road	17-2-81	3,400	11,394	30 ..
Dewanganj	368	Rd/Emb.	29-1-81	14,600	19,474	75 ..
Gablali	398	Road	1-3-81	1,611	5,173	31 ..

Thana	Project No.	Project Type	Date project started	Amount of wheat distributed until April 30 (mbs)	Total amount of wheat allotted (mds)	Percentage of wheat distributed by April 30, 1981
	410	Canal	17-2-81	3,526	4,505	78%
Boda	1014	Rd/Emb	22-2-81	1,700	2,433	70 ..
	1015	Rd/Emb.	21-2-81	2,000	3,152	63 ..
Puthia	113	Road	9-3-81	1,000	5,654	18 ..
	116	Road	23 3-81	500	2,885	17 ..
	119	Road	15-3-81	500	1,538	33 ..
Natore	190	Road	9-2-81	3,189	9,740	33 ..
	207	Road	26-1-81	2,706	2,876	94 ..
Akkelpur	421	Road	21-2-81	1,100 (paddy)	1,756	63 ..
	426	Tank	9-2-81	2,500 ..	3,527	71 ..
Kachua	509	Road	2-2-81	4,500	7,147	63 ..
	510	Road	5-2-81	2,200	4,555	48 ..
Manikganj	468	Road	18-1-81	4,703	4,946	95 ..
	469	Rd/Emb.	12-1-81	5,700	5,988	95 ..
	477	Emb.	16-1-81	4,032	4,032	100 ..
Sujanagar	1246	Rd/Emb.	1-2-81	4,636	13,789	34 ..
Rajbari	555	Road	6-2-81	4,667	7,541	62 ..
	556	Rd/w mb.	4-2-81	3,500	5,865	60 ..
	561	Road	6-2-81	3,800	5,154	74 ..
Alamdanga	789	Road	1-2-81	3,709	6,303	59 ..
	790	Road	7-3-81	1,468	1,994	74 ..
	801	Canal	1-2-81	2,600	4,242	21 ..
Damurhuda	794	Road	18-2-81	4,600	6,846	27 ..
	802	Canal	18-2-81	3,225	4,620	70 ..
Feni	634	Road	20-2-81	1,365	3,206	43 ..
	1261	Rd/Emb.	28-1-81	2,158	6,742	32 ..
Laxmipur	600	Road	11-2-81	1,865	2,309	81 ..
	602	Road	18-2-81	1,400	2,177	64 ..
	604	Road	8-2-81	2,151	2,764	78 ..
Mehendiganj	941	Emb.	21-3-81	1,600	5,039	32 ..
	947	Canal	25-2-81	3,600	5,480	66 ..
Bhola	805	Road	17-2-81	1,049	3,457	30 ..
	816	Road	15-4-81	28	2,210	1 ..
	817	Canal	9-2-81*	56	1,389	4 ..

Note: In thanas where cash payment was made conversion to wheat has been made at the rate of Tk. 2.5 per sear of wheat.

* Work was suspended for a long period, and restarted on 28-4-81.

9. Occupation: (a) Main Occupation

- 1 Self employment in agriculture
- 2 Self employment in non agriculture
- 3 Service
- 4 Day labourer
- 5 House keeping
- 6 Depend on gifts
- 7 Any other (speciy)

(b) Subsidiary Occupation
Specify (the most important
one only)

... ..

10. Have you worked in FFW project before ?

- 1 Yes 2 No.

If yes, (a) How many projects ?

... ..

(b) For how many years have you been
doing this work ?

... ..years

(c) Type of project

- 1 Road
- 2 Embankment
- 3 Road-Embankment
- 4 Canal
- 5 Tank
- 6 Any other (specify)

(d) Did you work for FFW projects
last years ?

- 1 Yes 2 No.

11. (a) Who offered you this job ?

- 1 Project committee
- 2 Gang leader
- 3 Contractors

(b) how did he benefit by bringing you ?

... ..

12. Mode of payment ?

- 1 Wheat
- 2 Cash after selling wheat
- 3 Wheat in lieu cash
- 4 Others (specify)

13. (a) What is your opinion on the quality of
wheat distributed on this project ?
(tick one)

- 1 Very good
- 2 Good
- 3 Not so bad
- 4 Bad
- 5 Any other (specify)

(b) How are you being paid ?

- 1 Own work
- 2 Gang's work
- 3 Daily basis
- 4 Don't know
- 5 Any other (specify)

14. (a) What is your wage rate ?

Tk. _____ Seer _____

(b) 1. When did you last receive payment ?
2. How much did you receive ?
3. How many days did you work to
get that ?

Date _____

Tk. _____ Seer _____

_____ days

- (c) How many hours did you work yesterday ? _____ hours
- (d) How many days did you work last week ? _____ days
- (e) When will you next receive payment Date _____
- (f) How much wheat do you receive by moving 1000 cft earth ? Seer _____
- (g) Do you know about lead & Lift ? 1 Yes 2 No
- (h) Did you get any extra payment last week ? _____ Seers
 If yes, (1) What is the rate ?
 (2) Why ?
- 1 Muddy/Slushy
 2 Hard
 4 Sandy
 5 Lift
 6 Jungle clearance
 7 Bailing of water
 8 Levelling, dressing and turling
 9 Don't know
15. Did you sell wheat/paddy last week ?
 If yes, (a) What quantity
 (b) What is the total value you have sold ?
 1 Yes 2 No
 _____ seers
 Tk. _____
16. Do you normally sell wheat/paddy you earn on the project ?
 If yes, then why do you sell wheat ? (rank two in order of importance)
- 1 Yes 2 No
 1 Family members do not eat wheat
 2 Do not need so much wheat
 3 Need cash to buy other commodities
 4 No facility to store
 5 No facility for grinding to make wheat flour
 6 Poor quality cannot eat
 7 Any other (specify)
17. Since you joined project works this year did you ever drop out for a week ?
 If yes, ask Q. 18. If no go to Q. 19
18. If yes, why did you drop out ? (tick all relevant)
- 1 Yes 2 No
 1 To take rest
 2 Personal sickness
 3 Went to visit family
 4 Worked on own cropland
 5 Family troubles
 6 The project was too far away from home, so it was difficult to work
 7 Worked some where else as the work paid more
 8 Any other (specify)

19. a) Does your family own any crop land ?
If yes how much ?

1 Yes 2 No
Own _____ decimals
Sharecropping _____ dec.

b) what is the size of your family ?

20. Does your family own any homestead ?
If yes, how much ?

1 Yes 2 No
_____ decimals

21. Does your family own any house ?
If yes, ask Q 22, if no go to Q 23

1 Yes 2 No

22. a) What is the type of your main house (tick one)

- 1 Straw, tear or bamboo roof; straw, leaf or bamboo wall
2 Tin roof, straw, leaf or bamboo wall
3 Tin roof, tin wall
4. Any other (specify)
1 Spade 2 Basket
3 Spade & Basket

b) Have you any spade or basket ?

23. Do you think this project will harm people living nearby ?

1 Yes 2 No

a) If yes,

1. For whom it is harmful ?

- 1 Rich
2 Poor
3 Self
4 People nearby
5 Everyone

2. What are the bad effects ?

- 1 None
2 Misuse of productive land
3 Create problem over giving away of land
4 Embankment has no sluice gate, so it will cause harm to many people
5 Project will not last long, so misuse of money
6 Any other (specify)

..,

1. For whom it is beneficial ?

- 1 Rich
2 Poor
3 Self
4 People nearby
5 Everyone

2. What are the good effects ?

Road

1 Save land from flooding

Embankment

2 Save land from river erosion

Rd/Embankment

3 Prevent salinity

**4 Improve communications
and market facility**

Canal

5 Improve irrigation facility

9 Bring more land under cultivation

7 Draining facility

8 Bring more land under cultivation

Tank

9 Help pisciculture

10 Washing and bathing facility

11 Increase the value of land

12 Others (specify)

Name of Interviewer _____ **Date** _____

Time of Interview _____

Name of Research Supervisor _____ **Date** _____

Edited by _____ **Date** _____

Coded by _____ **Date** _____

Checked by _____ **Date** _____

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LABOUR COUNTING FORM

Thana :

Project No. :

Date : From _____ To _____

Project Type :

Sl. No.	Name of Gang Leader	No. of Workers											
		No. of observations											
		1	2	3	4	5	6	7	8	9	10	11	12

Interviewer :

Date :

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DISTRIBUTION FORM

Project No. _____ Project Type _____ Thana _____
 Distribution Centre (Union) _____ Distribution Date. _____

I	II	III	IV	V
Name of Gang Leader	For period From _____ To _____	Amount of wheat received	of Cult of earth received	Number of workers in his gang
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
16.				
17.				
18.				
19.				
20.				

Note : For column V, you will count the number of labourers under each gang leader.

Name of Research Officer _____ Date _____

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WEEKLY OUTPUT MEASUREMENT FORM

Project No. _____ Thana _____ District _____

Project Type _____

Date _____ Week No. _____

Total No. of Workers _____

Total No. of Gangs _____

Average No of workers per Gang _____

Sample Gang :	Gang 1 Hour 1	Gang 2 Hour 2	Gang 3 Hour 3	Average
Time of starting :				
Number cutting earth :				
Number moving earth :				
Number of baskets moved :				
Cft of earth moved (No. of baskets X 0.7)				

Presence of additional factors :

- Muddy soil
- Hard soil
- Sandy soil
- Lead
- Lift
- Bailing of water
- Jungle clearance
- Levelling, Dressing
and Turfing

Research Officer _____

(To be carried out once, weekly in each thana)