

APPENDIX B

PUBLIC CONSULTATION - GAIBANDHA IMPROVEMENT PROJECT

1. First Round Meetings 6-10 June, 1992

1.1 Introduction

The first phase of a series of meetings was held in the Gaibandha Improvement Project (GIP) between the 6th and the 10th of June 1992. The meetings held at both village (see appended map for sites) and official levels are part of a process to get local people involved in the flood action plan and especially so where aspects of flood control have a direct impact on their lives in the case of the villagers and in their professional capacity in the case of local officials.

For the initial phase the methodology was as follows:

- a. To walk transactions of pre-selected parts of the GIP area and talk to people as they worked in the fields or the beels;
- b. To hold pre-arranged public meetings in village settings;
- c. To meet officials at all levels, district, thana and union in their offices.

Since a major objective in involving the public in flood action plans is to get its point of view on issues involving floods the field workers, who came from a multidisciplinary background, were told that in the first instance they must carefully listen to what the public and officials had to say on the issues and not attempt to direct the research along lines that flood action plan specialists had perhaps already formulated.

To facilitate the process two sets of FAP2 personnel were fielded as follows:

Official Meetings	Rural and Village Meetings
Team Leader	Deputy Team Leader
Institutional Specialist (Local)	Sociologist (Expat)
River Engineer (Expat)	Engineer (Expat)
River Engineer (Local)	Engineer (Local)
	Sociologist (Local)
	Economist (Expat)

As well as eliciting public opinion on specific flood problems and solutions the team conducting the village level consultation was asked to assess the optimal way of eliciting information since transactional walks and public meetings might yield different sorts of opinions influenced by the setting in which the villagers found themselves. During the course of the consultations which are planned over a two month period any differences which do emerge will be carefully analysed.

1.2 Village Meetings

1. Transactional walk near Narapur village in Bholanjor Union on the right bank of the Ghagot and between the Saidullapur road.

Farmers told us they were severely disadvantaged since they were caught between an embankment on the left bank of the river constructed by the Early Implementation Project (EIP) and a flood barrier built on the alignment of the main road from Gaibandha to Saidullapur. They also blamed heavy siltation in the bed of the Ghagot and said silt came down the river from the north. They also told the field workers that the Manas regulator downstream did not have the capacity to discharge all the floodwater into the Brahmaputra and water backed right up into the villages where they lived.

They were heavily inundated for an average of three months per year and could only get a boro rice crop. When asked for solutions to their problems in order of priority they replied:

- a. Re-excavate the bed of the Ghagot;
- b. Build an embankment on the right bank of the Ghagot;
- c. Dismantle the Manas regulator.

2. Transactional walk near Kajuldab village in Bholanjor Union on the right bank of the Ghagot five kilometres north of the previous village but still between the river and the main road.

Farmers in this area also told us they were flooded for three months due to being between the left embankment of the Ghagot and the main road. They wanted to grow aman but could not because of heavy inundation. Their reasons were as those in the previous village except that they also blamed the Sonail Embankment Scheme which they said prevented natural drainage in that direction. To prove their point they said that when the Sonail Embankment was cut by the public in 1991 the level in the Ghagot dropped by three feet.

They also pointed out to the field workers the dangerous erosion of the right bank of the Ghagot near their village where a large school building and housing were being threatened. A major part of the problem was that the Ghagot had changed its meander and in recent years formed a loop which is getting nearer their village each flood. Solutions suggested in order of priority were:

- a. Connect the loops of the Ghagot so that in heavy flooding the river will run straighter;
- b. Re-excavation of the old Ghagot channel training the river to run its previous course;

3. Transactional walk near Hamindapur village in Kamarpara union again between the main road and the right bank of the Ghagot but in the next thana north of Gaibandha.

At an impromptu meeting on the riverbank villagers told us their houses were flooded to a depth of three feet every year since 1988. Again the economic effect of the embankment on the left bank of the Ghagot and the flood barrier on the main road has meant that only winter boro which is more expensive to grow than aman is possible.

These men claimed that the incapacity of the Manas regulator was a major problem since water backed up from it right up to Saidullapur town. In order of priority they thought the solutions were:

- a. Re-excavate the main channel of the Ghagot;
- b. Dismantle the embankment on the left bank of the Ghagot to produce equitable flood conditions on both sides of the river.

4. Transactional walk along the northern boundary of the Sonail Embankment Scheme to where the Alai and the Ghagot are joined.

On this walk we saw men removing sediment from the bed of the Ghagot in very large quantities. Questions revealed that it was sand and as far as they were concerned it came from the Teesta far to the north. They said it was a major problem every year.

This area it was stated is seriously flooded when the level in the Brahmaputra is higher than that of the Ghagot and Alai and the Manas regulator cannot operate. They said that the Sonail Embankment is part of the problem since there is no natural drainage to the southeast.

Farmers inside the Sonail Embankment were very happy with their situation and wanted it to remain as it was. In fact to prevent farmers on the outside of the scheme cutting the embankment they had organised a system of guards who worked on shifts round the clock when the area adjacent to the scheme was flooded.

5. Transactional walk south of Gaibandha town near the village of Pearapur village in Boali union outside the Sonail Embankment Scheme and on the left bank of the Alai river.

Farmers told the field workers that since the EIP construction of the Sonail embankment in 1986 they suffer heavy floods when the rainwater run-off from the northwest coincides with water coming out of the Alai and into their villages and fields.

In 1991 they cut the Sonail embankment which is on the left bank of the Alai at Trimohini in a highly organised exercise in which it is claimed the union chairman was involved. They said this was the only way they could deal with the disastrous flooding in their homesteads.

They said the water starts to come up in late May and they can be inundated for up to three months. They said that the problem starts up at the Manas regulator the excess of which goes into the Alai and subsequently into their fields and homes.

No aman has been possible since the construction of the Sonail Embankment leaving them one boro crop and greater poverty as a result.

Prioritising solutions they said:

- a. *Build a sluice gate into the Sonail embankment at Trimohini or;*
 - b. *Construct a high bridge at the same place to allow free passage of water into the embankment scheme.*
6. Transactional walk inside the Sonail Embankment Scheme at its southern boundary with the Brahmaputra near the village of Kukrahat in Bharatkali union.

This area is the extreme southwest of the polder created by the Sonail Embankment Scheme and is the lowest lying area of the entire scheme. As such farmers said it is the drain for all the rainwater and when the public outside the embankment cut it at places like Trimohini they can be inundated for up to four months.

Previously there had been a bridge on the BRE part of the scheme's western boundary and water had been able to drain through it towards Phulchari but the EIP engineers had sealed it off when constructing the polder.

The farmers told us they had made a breach in the polder boundary into the Brahmaputra for two successive years and had already planned to do the same this year. They said it was the only way they could protect their crops. One of them was broadcasting aman while the field workers conducted the meeting.

When asked how their problems might be solved they said in order of priority:

- a. Construct a sluice gate in the exact position where they had made the breach or;*
- b. Build a bridge in the same spot to allow free passage of floodwater into the Brahmaputra.*

It is worth adding as a postscript that these farmers had put these suggestions to the authorities and even the local MP on a number of occasions only to be told there were no funds.

7. Impromptu meeting at a dokan in the village of Rupa Bazaar in Ghagoa union.

Villagers claimed this was one of the worst flooded areas in the entire Gaibandha district and was due in large part to the construction of the Sonail Embankment Scheme which is preventing drainage to the southeast. Since 1987 the water rises in June and stays for two and a half months.

The causes they stated besides the Sonail scheme are heavy siltation in the Manas river and the inadequate capacity of the Manas regulator to deal with the problem. One of them also claimed there were too many unplanned roads in the area causing barriers to water drainage.

They said they used to get two good crops of transplanted aman and aus but now are forced to grow boro only. This had impoverished them as they had to take large loans at high rates of interest for the boro crop inputs.

They said they had organised to cut the Sonail embankment on a number of occasions but could not cross the river and were on occasion prevented by guards (see above) on the embankment organised by the farmers living inside the scheme. As a last resort they had cut the BRE near the Manas regulator and met with no resistance. They claimed this action reduced the floods in less than twenty four hours to a tolerable level.

They also told the field workers that the presence of a large number of beels in the area means that stagnant floodwater stays in what they claim to be twenty thousand acres of land for over six months preventing them from farming this land.

They had a large number of suggestions for solving their problems and these are in no specific order of priority:

- a. Dredge the Manas river;*
- b. Construct a bridge on the northern boundary of the Sonail embankment permitting free flow of floodwater;*

- c. *Increase the capacity of the Manas regulator;*
- d. *Make more sluice gates in the BRE to allow water out;*
- e. *Drive a drainage canal right through the Sonail Embankment Scheme from Konarpara to Phulchari and then into the Brahmaputra;*
- f. *Raise the height of the Manas right embankment;*
- g. *Pass the water from the Ghagot through a re-excavated Alai eventually into the Brahmaputra near Sariakandi. This would involve shutting off the Ghagot river from the Manas regulator.*

8. A pre-organised public meeting in the Salai Idgah field with about fifty small farmers from villages Sailapur, Jainpur, Uttar Manduwar which are all in Banagram union. These villages are all on the right bank of the Ghagot between the river and the barrier on the alignment of the Gaibandha - Saidullapur main road. Because of the greater formality in this type of situation it was explained to the meeting that the field workers wanted them to tell their situation in the following order:

Their present socio-economic situation with special emphasis on flood-related problems;

Their analysis of the causes of the flood problems;

What solutions they would like to see implemented to improve their situation.

In the years before the mid eighties these small farmers said they got an aman crop but now starting in June they are inundated with water for up to four months. In years when they think there will not be a major flood they said they still planted aman and if the water came up evenly it was alright but in many instances the crop is partially destroyed. They do grow boro since it is safe but it costs so much for inputs that they want a water situation which will allow them to grow aman safely.

They also informed the field workers that fishing as a source of cheap food had diminished rapidly in recent years. They clearly stated that fish cannot get from the Brahmaputra into the inland rivers and water bodies. When the ponds overflow in floods fishing becomes an even more precarious occupation.

In these severe floods the houses go under water for a depth of three to four feet for as much as ten days with homestead areas for flooded three to four weeks.

There was a general consensus that the heavy siltation of the Ghagot was a major cause of the floods of recent years. They said that ten to fifteen years ago the Ghagot was anything from thirty to thirty six feet deep but sand coming from the Teesta has drastically reduced the capacity of the river to carry water in large volumes; it now spills onto their farmland and villages.

They also considered the Manas regulator to be a major problem saying that the vents cannot relieve the large amounts of water that have recently been coming down the Ghagot. Like all the villages in this area the EIP embankment on the left bank of the Ghagot is also a problem for them as water

In this area the EIP embankment on the left bank of the Ghagot is also a problem for them as water spills out of the river only in their direction and then is halted by the barrier on the main road causing floods of long duration.

Their suggested solutions to the problems were:

- a. Either dismantle the Manas regulator or increase its capacity to a point that it can cope with the increasing amounts of discharge in the local rivers;*
 - b. Construct an embankment of their side of the Ghagot ie the right bank to prevent heavy spillage into their area but also with a sluice to drain off rainwater from their land;*
 - c. Dredge the Ghagot.*
- 9. A pre-arranged meeting with mainly landless people in a market place near the Ghagot. They were from the villages of Uttar Dakshin and Manduwar in the Banagram Union which again is between the right bank of the Ghagot and the main road. The attendance again was approximately fifty.*

These men claimed that a major problem for them and their families was that recent severe flooding had cost them many weeks of agricultural work and they were now forced to migrate temporarily to places like Dinajpur to feed their families. This was mainly due to the fact that aman is no longer grown in the farmlands where they live. They also claimed that sand deposited on the land during floods is making boro difficult to grow.

They also analysed the problem of getting food from the beels and ponds since the river fish need the 'sweet' water of the inland water bodies to develop and now cannot get in through the BRE. The sluice gate at Rasulpur ie the Manas regulator was specifically mentioned as a barrier to this fish migration.

They also said they were disadvantaged by the effect of recent heavy flooding on navigation. Previously large boats would come up the Ghagot creating business and employment. Now the heavy siltation has stopped this. This only happened, they said, after the construction of the Manas regulator.

During the severest floods they have to move to the school for shelter or the main road which is built on high ground. The only means of transport during these difficult times, they said, was by bhela (rafts made of banana trees).

Heavy siltation and the incapacity of the Manas regulator to deal with heavy floods were the main causes postulated by these landless people. Rightly or wrongly they claimed that the Ghagot bed had risen by as much as twenty feet in recent years. They also claimed, however, that many of the village roads built by CARE were also creating water blockages in their local area.

Their preferred solutions were:

- a. Construct an embankment on the right bank of the Ghagot;*

- b. *Connect the meandering loops of the Ghagot by straight channels making it flow directly through the area; they suggested that the oxbows thus created could be used for fishing; they also said they would provide their land for this purpose;*
- c. *Increase the capacity of the Manas regulator or get rid of it;*
- d. *Re-excavate the Ghagot river.*

10. *A pre-arranged meeting with fishermen in Rasulpur village in Kaanchipara union. This situation is just inside the BRE south of the Manas regulator. Two fishing cooperatives exist with over three hundred members in one case and one hundred and fifty in the other. It is a mixed Muslim/Hindu community and nearly one hundred people attended the meeting.*

These men told the meeting that the fishing situation was now disastrous. There is not a great deal of fish in the Brahmaputra and that which does exist cannot get into the floodplain because of the Manas regulator which is never opened from April to July when the fry and eggs should be moving into the beels and ponds.

These fishermen were also aware of the dangers they themselves create when stating that the nets they hire are of such small mesh size that juvenile fish are also killed. They have to hire the boat and the gear from a mohajon who demands on average ten thousand taka per year for the gear and between three and four thousand for the boat. It requires a group of twenty men to meet these heavy demands. Then when they land the fish they have to give twenty five percent of the profit to the ejaradar (the man who has bought the lease of the water body).

Even then, they said, their financial woes were not over since the remainder was divided into twenty four shares, three to the owner of the gear, one to the owner of the boat and the rest to the twenty men who have done the work

Their plight has forced many of them into other occupations like rickshaw pulling, day labourers at earth cutting and small trade ventures.

They finally claimed that in the last twenty years fifty percent of the fishing communities had migrated to Dinajpur and other urban centres.

Their other main problem is river erosion which forces them to move and disrupts their lives.

The solutions they offered reflects their concern as fishermen:

- a. *Arrange the operation of the sluices so that from April to July the fish can get into the beels and 'sweet' waters of the paddy fields and from September onwards can get back to the river;*
- b. *Stop fishing from April to June when breeding and growth is taking place. During this period they would like the government to give them work or loans at low rates of interest;*
- c. *Fishing communities should be given good loans to buy nets and other fishing gear.*
- d. *Increase the capacity of the Manas regulator;*
- f. *Improve the nearby beels eg Katlar and Hatlar for fish production.*

11. A pre-arranged meeting in South Gideri village which is just inside the BRE about twenty kilometres north of Gaibandha town. This is a large community with around five hundred households and a small number of Hindus who are potters, fishermen and barbers. There were only four farmers with substantial land, the rest small farmers and migratory labourers. Around one hundred people attended.

Many of the men told the field workers that the major problem is river erosion and its consequences. In the past ten years the BRE where they live has been washed away four times and has to be re-aligned nearer and nearer the village. Many have lost land to the river and when the embankment is reconstructed they lose land for which they are given poor compensation. The money is never given in one instalment and they told the meeting that they have to bribe officials to get payment.

River erosion is creating increased landlessness every year. The problem has been compounded in recent years by overspill from the Manas and Ghagot rivers which are to the west of the area. When this happens and there is heavy rain the villagers told the meeting that the Manas regulator cannot cope and they have to cut the BRE usually in August to relieve their plight.

Their solutions to the problems were:

- a. *Protecting the banks of the Brahmaputra to prevent further erosion and any further retirement of the BRE;*
- b. *Manas regulator to be enlarged to cope with recent floods;*
- c. *Bridges and culverts to be inserted in the CARE roads to allow unimpeded passage of floodwater.*

1.3 Official Meetings

Official meetings were held both at thana (upazila) level and at district level

1.3.1 Thana Level Meetings

Thana Nirbahi (executive) Officer (TNO) - Gaibandha Sadar

According to the TNO the floods in 1987 and 1988 were caused by the overflows from the Ghagot and the Brahmaputra. Further problems were caused when the public made cuts on the Sonail Embankment both in 1987 and 1988 at two locations by people living outside the embankment.

It was stated by the TNO and the local magistrate during the discussion that Gaibandha Sadar (town) is regularly flooded by the Ghagot. They said that there an embankment had been built for the protection of the town but it had been washed away. The drainage system of the Pourashava (municipality) is connected to the Ghagot the high levels of which during floods forces water back into the town through the drains causing floods in town itself. The TNO suggested that the town requires flood protection and a proper drainage system to provide a healthier environment for the urban population.

Mr. Katayama (expatriate engineer) asked for the opinion of the TNO regarding the flood embankment Type A (Fig-3 working paper No. 7) with berm. The TNO stated that this type of

embankment would require more land which would be difficult to acquire. He also mentioned that protection of the berm from encroachment by unauthorised settlers would be a very difficult task.

Mr. Katayama asked an opinion on cutting loops on the left bank of the Ghagot after the bridge on the road to Sundarganj. This idea was acceptable to the TNO and officials present with him since this would not involve land acquisition for construction of an embankment on the right bank of the river in a heavily populated residential area.

With reference to people's participation in the proposed project the TNO suggested that Union, Thana and District Parishads and the Pourashava (municipality) should be involved in the activities. He felt, however, that BWDB should be the lead organisation with the LGEB and DAE as associates. The further suggested the NGOs should be given priority for the maintenance work in a similar way to that of road maintenance.

Thana Engineer, LGEB - Gaibandha Sadar

According to the Thana Engineer the main reason for flooding was heavy siltation of the Ghagot. He did not have a clear idea about flooding and remedies. He said, however, that Gaibandha Town is flooded regularly due to the fact that the town drains cannot deal with the discharge to the Ghagot which frequently flows at higher levels than the drains. He suggested construction of large ponds for the effluent from the municipal area. He also suggested that this effluent could be pumped out to Sonail area. According to him the deposition of silt near the town area is about four to five feet and to deal with this problem he suggested de-siltation of the Ghagot which would also improve the flooding situation generally.

He mentioned that when the Thana Parishad was still a functioning unit it used to approve plans for rural roads submitted by different agencies. There was no master plan for the construction of these roads resulting in many being built by the NGOs (especially CARE) and the Union Parishads. After the suspension of Thana Parishad a committee consisting of the LGEB engineer, a project implementation unit and the relief officer authorised to assess the construction of new rural roads. During periods of seasonal high unemployment the committee authorises permission for the construction of rural roads under the Food For Works (FFW) Programme. The LGEB engineer is aware of the problem these unplanned rural roads are creating during the flood but he claimed that road construction is undertaken to provide employment to the unemployed poor and also to effectively utilise the wheat provided under the F.F.W. Programme.

Regarding people's participation in flood control projects he suggested that local unemployed people should be trained first before they are employed. He felt that the maintenance work of such projects could be undertaken by the NGOs.

Thana Fisheries Officer - Gaibandha Sadar

The Thana Fisheries Officer felt that the Manas and other regulators should be kept open for two months during the fish spawning period (May - June) for fish from the Brahmaputra to get inside the embankment to the internal rivers and beels. Enough feed for the fish is not available in the Brahmaputra but in the Ghagot there is, he claimed, adequate feed for faster growth rates. He also stated that the closure of the regulator at Narayanpur is obstructing the passage of fish for spawning in the Ghagot.

When asked what the impact on fisheries would be if the proposed area was sealed, he said that fish production would decrease by 25 percent. He thought this decrease could be replenished by re-excavation of khals, beels and ponds. For this bank loans would be required. According to statistics available at the Thana Office there are 173 fishing families on the Brahmaputra locally and 200 on the Ghagot and the Alai rivers. In his estimation 1000 fingerlings per bigha (approximately one third of an acre) would be required for ponds and 500-600 for the same area of open water.

Thana Palli Unnyan Officer - Gaibandha Sadar

The Thana Palli Unnyan (cooperatives) Officer gave a brief of his activities in the thana. There are 180 co-operatives in the thana and each cooperative society has about 25 families covered by it. According to him organised cooperatives could undertake maintenance work in their respective areas.

Thana Agriculture Officer (TAO) - Gaibandha Sadar

According to the TAO the main reason for flooding in the thana is caused by the Ghagot and inadequate drainage which in turn cause crop damage. He said that in normal flood years the crop damage is ten to twenty percent but during the severe flood in 1987 the damage was sixty to seventy percent of all the cropped area; in 1988 it was forty to fifty percent of the area. The total cultivable area available in the sadar
53,634 acres.

The main crops in the thana are boro, T aman, B aman (very small), jute, aus (both transplanted and broadcast) and vegetables. Boro covers 90 percent of the cultivable area. Except for very low land T aman is grown in all the area. The TAO said that due to regular flooding the B aman acreage is negligible. This year he is planning to grow B aman in 2 acres. If the trial is successful he is planning to cover 1500 acres with B aman next year.

The TAO claimed that in the thana HYV aman yield is 45 maunds and T aman yield is 30 maunds per bigha. He also mentioned that the cropping intensity is 2.6.

Thana Nirbahi Officer (TNO) - Saidullahpur thana

This was a joint meeting where the TNO, thana Agriculture Officer and the thana Engineer were present. The Chairman of Rasulpur Union of Saidullahpur thana was also present during the discussion.

The TNO mentioned that at present three unions (Damadarpur, Naldanga and Kamarpara) in his thana have some flood protection arrangements. But other Unions namely Rasulpur, Jamalpur, Faridpur, Bhatgram, Dhaper Hat etc. have no such protection.

According to the TNO during heavy rains flood water from beels in the Mithapukur area enters through Bhatir Chara and floods Rasulpur Union. The beels in Mithapukur area are large and when they overflow huge quantities of water flow from that area to Rasulpur union. During the discussion the Chairman of Rasulpur Union suggested that embankments should be made on both sides of Bhatir Chara and also suggested re-excavation of Bhatir Chara. Later we visited the area accompanied by the thana Agriculture Officer and the Chairman of Rasulpur Union.

The thana Engineer suggested an embankment on the left bank of the Ghagot and re-excavation of the Nalai.

The thana Agriculture Officer said that the main crops of the thana are T aman, B aman, wheat, vegetables (most of them are marketed in Rangpur Town), jute and aus. According to him the cropping intensity of the thana is 2.4.

1.3.2 District Level Meetings

Department of Agricultural Extension (DAE)- Gaibandha District

The DDA mentioned that the reason for flooding in the district is due to overflows from the Ghagot and the Karatoya, breaches in BRE and drainage congestion. Damage is caused to 20,000 to 100,000 acres each year. According to the DDA the worst affected thanas are Fulchari, Sagata, Sundarganj, Sadar and Gobindaganj. He felt that the regulator at Manas is only draining about ten percent of the water from the Ghagot and it should be replaced by a bigger regulator (perhaps a lock-gate). While giving the cropping position he mentioned that 300,000 acres are covered by T aman (60% HYV and 40% local) of which B aman only covers about five to six thousand acres because farmers are afraid of severe floods and the damage caused. Aus and Jute are partially damaged on occasion by early flooding in June and July

The floods in September 1991 badly affected Gobindaganj thana. Regarding the breaches on the Brahmaputra he suggested construction of cross bars in several locations. He also suggested an embankment on the right bank) of the Alai to decrease flood damage in some areas. His opinion about silting is that the silt comes from the river banks and fields and not from the Teesta.

Executive Engineer, Bangladesh Water Development Board (XEN BWDB) - Gaibandha District

The XEN mentioned that the regular monthly meetings of the heads of concerned department in the district is held under the chairmanship of the Deputy Commissioner (DC) to discuss problems faced in the implementation of development programmes. The DC also co-ordinates Food for Work activities, land acquisition problems and also river erosion.

It was gathered from the XEN that the BWDB was seriously considering cutting a loop on the Ghagot on the northern side of the bridge on the Gaibandha - Sundarganj Road to prevent erosion of the banks on the left bank of which now badly affects Gaibandha town. It was noted from the drawing he produced that the BWDB has provided gates at both ends of the loop for periodic flushing of effluent from the town which drains to the Ghagot.

The XEN felt that if the flow in the Ghagot could be reduced before it reaches the town it would afford protection to the town. He suggested two options - (i) to divert a part of the flow of the Ghagot upstream to the Nalai river (this would cause flooding in the low lying area in Palashbari) and (ii) to connect the Ghagot upstream near Bamandanga to the Manas by re-excavating a channel which existed years ago (re-excavation of this channel will pass through an area which is now very rich agriculture land). It was gathered that protection of Gaibandha town will be covered during the Second Phase of Small Town Protection Scheme under FAP-9A.

Regarding the construction of super-dykes or embankments with berms the XEN felt that there would be trouble with land acquisition and from encroachment by illegal settlers.

He expressed that construction of cross bars and groynes at places where erosion has already started might improve the situation. He was of the opinion that the Manas regulator is in danger due to erosion of the Brahmaputra in that area.

District Fisheries Officer (DFO) - Gaibandha District

According to the DFO the total annual fish production is about 6203 tons of which 70 percent is from capture fisheries. Fish production is on the decrease, however, as the rivers within the district are not flowing the year round. He mentioned that closing the Manas regulator is another reason for the decrease in fish catch. This closure disturbs the fish when spawning.

It was gathered from him that there are 88 beels in the district but all of them have little water during the dry season. The number of beels per thana with areas and number of fishermen are given below:

Name of thana	No. of beels	Area in acres	Fishermen
Sadar	3	9.32	1582
Gobindaganj	14	250.56	1252
Palashbari	15	66.82	391
Sadullahpur	16	198.17	685
Sundarganj	9	123.13	1737
Fulchari	5	29.59	878
Saghata	26	352	861
Total:	88	1050.2	7390

According to the DFO the number of villages which fishermen inhabit is 170.

The DFO also stated that there are 327 khas fishponds with a total area of 409.66 acres in the district. Out of these the area of 224 ponds is less than 3 acres and these cannot be leased out. They are used by the general public since the Fisheries Department is not allowed to lease under three acres. Water bodies the size of 3-20 acres are leased out by thana and beels having an area more than 20 acres are leased out by District Revenue Office.

Deputy Commissioner Gaibandha (DC) - Gaibandha District

The DC said that the reasons for the floods are due to overflows from rivers and erosion of banks. According to him there is a popular demand to replace the regulator at Manas by a lock-gate. The DC said that the flood of 1991 was caused due to excess flows of water from India through Thakurgaon and Rangpur districts.

According to the DC there is frequent congestion from rainwater due to the embankments on the rivers. He suggested that regulators should be provided on each embankment to prevent congestion.

While discussing the excess land acquisition for the construction of super-dykes or berms he claimed this would not be a problem since such structures would be beneficial to the people. They will be willing to give land he added.

He suggested that the Water Development Board has the necessary information and as such are in a good position to help in designing flood protection measures. He was not in favour of a joint meeting with the UNOs and agency officials to discuss the proposals for the Gaibandha project.

XEN, Local Government Engineer Bureau (LGEB) - Gaibandha District

The XEN (LGEB) gave a description of the present activities of the LGEB in the district. Presently his organisation is engaged in construction of roads, bridges, culverts and hats (village markets) in rural areas.

In the Second Five Year Plan of the country the idea of Growth Centres was conceived. It was envisaged that the Growth Centres would gradually be developed to serve the rural areas. In line with this idea the LGEB has been constructing roads connecting the growth centres to Union Head Quarters (Rural Road Type R) and Growth Centres to thana Head Quarters (Feeder Road Type B). Connecting thana Head Quarters to the District Headquarters remains under the Roads & Highways Department. A list of the Growth Centres which have already been identified were provided by the XEN. Feeder Roads Type B which connect Growth Centres with the thana Headquarters are 24 feet wide and they are gradually being bitumenized.

The XEN produced a copy of a map "Water Resources Planning Map - Gaibandha Zila". This also shows the location of the centres and is presently being finalised. A copy of the map may be obtained from the LGEB Head Office in Dhaka.

2. Second Round Meetings 20-24 June 1992

2.1 Introduction

The second phase of a series of meetings was held in the Gaibandha Improvement Project (GIP) between the 20th and 24th of June 1992. The meetings were again held at both village level and with local government officials (see appended maps for sites) to continue the process of getting local people involved in some aspects of the flood action plan and its effects on their lives.

The methodology followed that of the previous phase of both organised and impromptu meetings in villages and countryside.

The official level meetings this time were held with union level officials in four thanas of the project area.

The composition of the teams were as follows:

Official Meetings	Rural and Village Meetings
Team Leader	Sociologists (Local)
Institutional Specialist (Local)	River Engineer (Local)
River Engineer (Local)	Drainage Engineer (Local)
	Agriculturist (Expat)

To ensure gender issues were dealt with three women sociologists also carried out village meetings with rural women at approximately the same time.

2.2 Village Meetings

13. A pre-arranged meeting in North Gidari village which is close to the left bank of the Manas river. About one hundred and fifty villagers from Kismot Malibari and North Gidari attended. Ninety percent of them are involved in agriculture of which 50 percent are small farmers with less than average one acre of land and the rest day labourers.

They claimed that before the construction of the Manas regulator and the Sonail Embankment they could grow aman, aus, wheat, jute and a variety of pulses. They now cannot grow T aman because of flooding.

The flooding is caused by heavy rainwater and overspilling of the Manas and the failure of the system to drain to the southeast. This failure they said was the destruction of the natural drainage by construction of the Sonail Embankment and the incapacity of the Manas regulator the deal with the problem. They said the area can be flooded in bad years to a depth of over three metres.

The few fishermen who live in the area also claimed that the Manas regulator was preventing young fish getting into the rivers and beels from the Brahmaputra. People also made the point that previously the Manas and Ghagot were cheap methods of transporting produce by boat to Phulchari; the construction of the regulator cut off this system.

Because of decreases in agricultural production day labourers have to migrate for work during March and April and September and October.

The villagers said many of the problems might be solved by:

- a. *Scrapping the Manas regulator and building a bridge in its place;*
- b. *A return to the natural drainage of the area through the Sonail Embankment (incidentally they said they would cut this embankment during floods if they could get across the river);*
- c. *Separate the Manas from the Ghagot and let both rivers have different outfalls into the Brahmaputra.*

14. A pre-arranged meeting at Janpar Shimultola in Sarbananda union. This meeting was attended by about eighty fishermen who get their livelihood on the Bamandanga beel. They have an association and lease the beel from the government. The association is two thirds Hindu and one third Muslim with a total membership of about ninety.

They said their flooding problems were largely the result of breaches in the Teesta right embankment which in turn enters the Ghagot and floods the area of the beel bringing heavy siltation which is reducing the fishing area of the beel. Rich farmers take over the land reclaimed by the silt.

Rich men also put fish traps into the beel illegally and again diminish the livelihood of these traditional fishing communities.

Diseases in the form of ulcers on the skin of the fish is now also a major problem and they say this is spreading to other species like ducks living on the beel.

In years of heavy flooding the beel can be unusable for up to two months when men have to migrate to find other work in urban areas.

These fishermen said the main solutions should be:

- a. *Either embank the left bank of the Ghagot or build two regulators, one at the entrance to the beel and the other where the beel drains to the east;*
 - b. *Re-excavate the beel using local labour to an increase in depth of one and a half metres allowing them to increase culture fish production throughout the year.*
15. *A pre-arranged meeting with about seventeen farmers from the village of Ramavadra in Sarbananda union. This village is southeast of Bamandanga and close to the Ghagot river. This is a comparatively rich area with farmers having between two and three acres of land.*

These farmers said the major problem is the flooding of the Ghagot via breaches in the Teesta. When the Bamandanga beel floods through the railway bridge at Bamandanga their farmland is inundated for as long as five months and in bad years to a depth of five metres. Aman is severely damaged during these floods.

They also blame the heavy siltation of the Ghagot the capacity of which to relieve floods decreases annually. This extra spillage also goes into the beel and floods their land.

They offered the following solutions:

- a. *Regular dredging of the Ghagot to relieve the flooding;*
- b. *Build a regulator near Bamandanga railway bridge to control the amount of floodwater going into the beel*

OR build an embankment on the left bank of the Ghagot to protect their lands during the bad flood years.

16. *A pre-arranged meeting with a landless community, some of whom were living in a cluster village, in Taluk Ramvadra of Sarbananda Union. About seventy people from a total of 108 households in the village came to the meeting. The location of the village is just north of Bamandanga beel.*

Since these people are landless their problems were expressed in terms of lack of agricultural employment rather than direct causes of local flooding. For example they said that since local farmers cannot plant Aman they have to migrate for as much as eight months of the year in order to feed their families or because of crop damage and the surplus of labour their daily wage can be as little as five taka and a half kilo of rice per day.

They also said that during the floods they have to drink unsanitary water and frequently eat food which has been contaminated.

The solutions which would improve their employment capability would be;

- a. *Regulate the intake from the Ghagot into the Bamandanga beel and/or build an embankment on the left bank of the Ghagot;*
- b. *Regularly dredge the Ghagot;*
- c. *Local khas water bodies these should be turned over to the landless for culture fisheries.*

17. *A pre-arranged meeting with about ninety people in a madrassah. The villagers were from Kandikabila which is in Kandi union of Pirgachi thana. It is beside the Masankura canal to the north of Sundarganj town. The population is mixed farming and fishing with about thirty percent owning land. Fishermen comprise around twenty percent of the total community.*

They said the flooding which in bad years can last for five months at a depth of over two metres comes mainly from the Teesta through the Kata Nadi. The regulator on the Masankura canal cannot deal with the water and creates drainage congestion and there is also backup from the Ghagot through the bridges of the railway line. This combination of factors be so bad that over forty percent of the late boro can be damaged.

Taman is also heavily damaged and they have lost in recent years a school, some housing and roads. There is an embankment on the canal which they cut three times in 1991

When the Masankura canal regulator was constructed in 1985 by the Bangladesh Water Development Board for irrigation the Teesta embankment was in good condition but when this started to erode and breach the regulator could no longer deal with the increased amounts of water.

Solutions offered locally were:

- a. *Construct a proper embankment along the Teesta from Painalghat to Sundarganj;*
- b. *Construct an embankment on the left bank of the Ghagot;*
- c. *Re-excavate the Masankura canal and increase the capacity of the canal regulator;*
- d. *Connect the Masankura and Mirganj regulators with a new canal which will have an outfall in the Teesta to the north of Sundarganj;*

18. *A pre-arranged meeting attended by about 200 people from Bamanjal village in Dahabanda union. The village which is principally populated by small farmers having around one and a half acres of land is close to the Mirganj regulator. About twenty five percent of the villagers have no land;*

Before 1988 when the Mirganj regulator was constructed they could grow T aman, jute, boro and wheat. Since construction of the canal regulator T aman is consistently washed away by floods. Water coming from the Masankura canal cannot drain through the Mirganj regulator into the Teesta. Locals refer to the Mirganj regulator as the "death trap;"

They also said that flooding coming from the Ghagot through Chowdhurani has silted up the drainage canal from Bamanjal beel to the Teesta.

Villagers wanted the following solutions to flooding:

- a. *Complete dismantling of the Mirganj regulator;*
- b. *Re-excavate the local canals connecting the beels to the internal river systems;*
- c. *Build an embankment on the left bank of the Ghagot to stop water coming into the area through Chowdhurani;*
- d. *Regularly dredge the Ghagot;*
- e. *Stop the public making cuts in the Masankura embankment and close this regulator during heavy floods;*
- f. *Build a new canal between Bamanjal and Kamarjani.*

19. *This was transactional walk along the Tapa Madhupur road with an impromptu meeting in Nizdarpa village. Thirty people from neighbouring villages talked to the team.*

Many of them have migrated here when the erosion of the Teesta drove them from their original villages. Half of all local people are landless with over one hundred not even having homestead land.

The main problem is the Teesta overspilling into the Maramanos canal which has subsequently silted up. This water should go back into the Teesta through the Kalirhat and Rajib regulators which do not have the capacity to do this.

As a result of this flooding no T aman or vegetables are grown locally causing much unemployment.

Solutions suggested were as follows:

- a. *Re-excavate all local canals and build a new one connecting Kalirhat and Maramanos;*
- b. *Regulators should be operated during floods to suit the needs of the public and not the officials;*
- c. *Construct bridges and culverts on village roads to relieve flood water in years of heavy inundation.*

20. *Pre-arranged meeting in a school near Bholanath Hat where around 150 villagers from Tambulpur union turned up. Of an estimated total of just over six hundred households nearly 150 of them had migrated from outside the Teesta right embankment in recent flood years and many did not even have homes.*

The major problem is bank erosion of the Teesta. In 1991 alone because of this erosion on the Teesta right bank land near Bholanath Hat went underwater severely damaging T aman, jute and late boro.

The villagers claimed they were flooded three or four times a year to a depth of over two metres. They also blame an inadequate number of groynes between Painalghat and Tambulpur for this.

They have difficulty even growing boro because of sand being deposited on the land when the Teesta breaks through the embankment. They say the authorities are not maintaining the embankment properly since annual contracts mean profits for unscrupulous officials.

They wanted the following solutions:

- a. Construct a proper embankment on the Teesta from Tarapur to Painalghat using boulders and bricks to prevent bank erosion;*
- b. Build more groynes to force the river away from the right embankment;*
- c. Construct a drainage canal from Painalghat to Bholarghat;*
- d. Re-excavate the Burail canal to improve drainage and provide a regulator where the canal goes into the Teesta.*

21. *A pre-arranged meeting of sixty women in Bamanjal village in Dahabanda union. They were the wives of both fishermen and farmers who comprise about forty percent of the village population with farmers predominating by a ratio of 4 to 1. The remainder of the village is landless.*

The women claim their problems started in 1987 with the construction of the Mirganj regulator. The regulator does not have the capacity to drain the floodwater from the northwest into the Teesta. They said the floods can stay in the area from June to September with their homesteads being inundated for almost two weeks and the fields for three months.

They said the aman was almost totally damaged and that fish could no longer get into the beels and smaller rivers from the Teesta because the regulator blocked off their passage.

In 1991 the villager cut the embankment near the Mirganj regulator to try to save their crops but they were too late to save much.

They offered as solutions;

- a. Either get rid of the Mirganj regulator entirely or increase its capacity to deal with larger amounts of floodwater;*
- b. Dredge the Ghagot and beels to increase the carrying capacity of these water bodies.*

22. *A pre-arranged meeting with the wives of landless labourers in Ramvadra village in Sarbanada union. Some of these women are settled in a cluster village.*

The problems the floods have created for them in their new situation is to deprive them and their husbands of work for a large part of the year since no aman can be grown. They said their husbands had to migrate to Dinajpur and Bogra for as much as eight months of the year to find work.

They only suggested one solution:

- a. *A sluice gate be built at Bamandanga to control the water going from the Ghagot into the beels.*

A further meeting was carried out in this village with the wives of farmers and fishermen. Sixty women turned up and started by saying that theirs' was a mixed community with seventy percent Muslims and thirty percent Hindus.

Because of flooding from the Ghagot they have been unable to grow aman and the fishermen's wives said that fish had been also disappearing since the heavy floods of 1988.

They blamed heavy siltation in the Ghagot for many of the problems they face claiming that too much water had been coming into the beel and the surrounding land from the river.

The solutions they offered were:

- a. *Better control of the water through the canal which connects the Ghagot to the beel;*
- b. *The construction of an extension to the embankment on the left bank of the Ghagot to the north of the Bamandanga area;*
- c. *Regular dredging of the Ghagot and the beels.*

23. *A pre-arranged meeting with forty women who are the wives of small farmers and landless labourers in the village of Kumarjani in the North Ghagoa union. Over sixty percent of the people in this village are landless and ten percent do not even have their own homes.*

They said the flood water came from the west and a major problem was that the natural drainage to the east had been destroyed by the construction of the Sonail Embankment. They claimed the construction of this structure meant they were flooded sometimes for as much as five months of the year. It was no longer possible to grow aman since Sonail was completed.

The women said that in severe flooding they have to shelter on the main road with their livestock. The flooding is sometimes so severe that they need a bhela (banana tree raft) to get from the road to their homes.

Only one suggestion was forthcoming from these women:

- a. *Get rid of the Sonail Embankment.*

24. *A pre-arranged meeting with over sixty women from the village of East Manduwar in Banagram union. These were the wives of small farmers and landless labourers.*

Heavy flooding occurred in 1987 and 1988 and the cause say the women was the Ghagot failing to cope with the water from the Teesta and subsequently flooding their land. This problem is made worse by the presence of the EIP embankment on the right bank of the Ghagot.

No aman has been possible in recent years and the problem is compounded by sand spilling on to agricultural land from the sediment carried from the Teesta.

Flooding lasts for about four months with around fifteen days of homestead inundation. During this period they take shelter either on the road or in the school.

They also claimed the Manas regulator was not able to deal with the volume of water coming down the Ghagot and rainwater run-off.

The only suggestion given was:

- a. The improvement of drainage to the south of the village.

2.3 Official Meetings

During the second phase of public consultation a series of meetings were held with Union Parishad Chairmen in different thanas in the Gaibandha Improvement Project (GIP) area.

Name of the thana	No. of union parishad Chairman present	Date of meeting
Gaibandha Sadar thana	7	21-6-92
Pirgacha thana	9	22-6-92
Sadullahpur thana	9	23-6-92
Sundarganj thana	13	23-6-92

The Thana Nirbahi Officers (TNOs) (executive officers) who helped arrange these also took part in these discussions. In some of the discussions the thana Agricultural Officer, thana Fisheries Officer and thana engineer were present. Only one women participated as Chairperson of Santiram Union of Sundarganj thana.

At the beginning of each discussion the Chairmen were requested to concentrate the dialogue on the following three points:

1. The reasons for flooding in their respective areas;
2. The extent of damage caused by flooding in their unions;
3. Their suggestions regarding solutions to flooding problems.

The meetings were held in the conference room of each thana complex.

2.3.1 Gaibandha Sadar Thana

The attendance at this meeting was small due to a general strike. Only four union parishad Chairman and three representatives of the union Chairman took part in the discussion.

1. Kuptala Union

According to the chairman of Kuptala union there are two reasons for flooding in this area. These are siltation of the Ghagot which has reduced the flow of water in the river and the inadequate size of the regulator at Manas. As the river bed rises with silt the Ghagot overflows and inundates a large area every year causing damage to crops ; this is aggravated by rainwater congestion. The union Chairman suggested that excavation of the Ghagot and an increase in the size of Manas regulator would improve the flood situation. He also suggested construction of embankments on both sides of the Ghagot with adequate regulators in each.

2. Malibari Union

The Union Chairman felt flooding in his union is caused by the overflow of both the Manas river and beels in the locality. According to him the beels are being filled up with silt coming with flood water from the Ghagot. He also mentioned that sometimes breaches in the BRE were also causing floods in the union. Unplanned construction of village roads with no provision for bridges and culverts is also causing rainwater drainage congestion. Crop damage in the union from flooding is a very regular feature. During the rainy season the depth of flooding in the low lying areas can be as much as three metres. This water stays for about three months.

He suggested that the flood situation could be improved if the water flow through the Manas is improved. This would be possible, he suggested, by increasing the size of the regulator at Manas or by eliminating it altogether.

3. Badiakhali Union

The Chairman said that the reasons for flooding in his union were (a) overflow from the Ghagot, (b) drainage congestion from rainwater and (c) unplanned rural roads which block the natural flow of water. He further mentioned that flooding was also caused due to spillage from some beels which are located within the union. Spillage from the Alai is also heavy because of the Sonail Embankment on the left bank of this river. This is causing severe damage to the aman crop.

He expressed the opinion that if the Manas regulator did not exist it would not adversely effect the boro crop locally. He suggested that no regulator was required at Manas but that an embankment on the right bank of the Alai would effectively improve the situation.

4. Kamarjani Union

According to the Union Parishad Chairman the river beds of Brahmaputra and Teesta were rising because of heavy siltation and diminishing the holding capacity of the river. This, he said, was causing flooding in the area with substantial damage to crops on a regular basis. To avoid this problem he suggested immediate protection from erosion of the banks of these major rivers. He further suggested that the size of the Manas regulator be increased or more regulators should be provided on the embankment.

5. Boalia Union

The Secretary of the Union Parishad representing the Union Parishad Chairman said that the Sonail Embankment is causing drainage congestion. As a result the public cut the embankment almost every year on the Alai river bank of the Sonail. This causes serious damage to the crops on the right bank of the Alai river in Boalia union. He suggested an embankment on right bank would improve the situation.

6. Kholahati Union

This union is having identical problems to those faced by Malibari union. This was stated by a representative of the union.

2.3.2 Pirgacha Thana

The Chairmen from eight of the nine unions attended the meeting.

7. Chaula Union

The Chairman stated that the major reasons for flooding in his union were siltation of the rivers Teesta and Ghagot and the canals Maramanos and Burail. The union is flooded almost every year but in some years the intensity is severe and there is substantial crop damage.

According to the union Chairman a sluice gate at Balarghat would improve the drainage to the Teesta.

The TNO mentioned that the Ghagot was flooding Kaikori union regularly and it was occasionally affecting Parul and Pirgacha Sadar thanas. But the union Chairman added that Kallyani and Itakumari unions were also being flooded by the Ghagot.

8. Kandi and 9. Tambulpur Union

The nature of flooding problems and consequences in Kandi and Tambulpur unions are identical in nature. As such they were covered jointly. It was stated by the union Chairman that the major reasons for flooding were (a) flood water from the Ghagot passing under railway bridges and entering these unions, (b) rainwater congestion and (c) water from the Teesta entering Kanid through a canal. This volume of water cannot be dealt with by Masankura regulator which should drain to the Teesta. The cumulative effect is serious as a flood height of approximately two metres remains for a month causing damage to crops over a large area.

Early flooding causes damage to boro crops because of congestion. No B aman is planted in the area.

They stated that the existing two vent regulator at Masankura is inadequate to handle the volume of water in the area. The Chairman felt that the size of the regulator should be increased to solve the problem. He also suggested that a proper embankment along the Teesta with a regulator at Kata Nadi (Kaliganj) could stop spillage from the Teesta.

10. Parul Union

According to the Chairman of this union siltation of the Ghagot and the Alai Kumari have been causing floods regularly in the area. He also mentioned that T aman could no longer be planted in his union. He also stated that some beels in his union were overflowing and adding to the problem. He said that during the time of President Ziaur Rahman a link canal was dug connecting the Maramanos canal with the Alai Kumari for draining to the Ghagot but heavy siltation of the Alai Kumari and the Ghagot has rendered this link canal a hazard rather than a help and as such has increased flooding in Parul and adjacent Itakumari unions.

11. Pirgacha Sadar Union

The union Chairman said that the union was regularly flooded. He claimed that a loop had been cut in the Alai Kumari to save Thakurbari Bazaar which is an important trading centre in the union. This loop has ceased functioning effectively because of high water levels in the Ghagot. He said that there were sand deposits of about two feet on parts of the cultivable land of Sadar and adjacent Parul unions. According to him this is due to erosion of both banks of the Ghagot. When asked if he knew the source of this coarse sand he was unsure about its origins. He did say, however, that it might have come from the Teesta through breaches in the northern part of the embankment some 15 to 20 years ago.

He suggested removing the silt by excavation of the Alai Kumari and also suggested that an embankment should be provided on the left bank of the Ghagot.

12. Kallayani Union

Information by the union Chairman revealed that flooding in the union was caused by the overflow of some local beels. The other reason given was the siltation of the Alai Kumari. To improve the flood situation he suggested excavation of the Alai Kumari and providing drainage out of the beels to the same river. It was reported by the union Chairman that the embankment at the border of the union was cut by people living in the upstream area in 1987 and this has caused serious flooding since then in the union.

13. Kaikori Union

The union Chairman said that the union was regularly flooded from the overflow of the Ghagot and rainwater congestion. He suggested that the span length of the railway bridges should be increased for quick drainage of flood water both from the Ghagot and rainwater. According to the Chairman no T aman is planted in this union.

14. Itakumari Union

According to the union Chairman flooding problems in four unions can be reduced if the Alai Kumari is excavated.

2.3.3 Sadullahpur Thana

The discussions with the union Chairmen of Sadullahpur thana were held in the conference room of the Parishad with nine union Chairmen of the thana present.

15. Faridpur Union

The Chairman of Faridpur union reported that overflows from the rivers Ghagot and the Nalia were causing floods. The situation, he said, was aggravated by rainwater congestion. According to him the embankment at Rasulpur is ineffective as huge volumes of water from Mithapukur area of Rangpur district enters the union through a canal and floods a large area. The flood level is can be between four and five feet and remains for 2-3 months (July, August, September)

T aman, B aman and boro are planted in this union. As a measure against flooding he suggested excavation of both the Ghagot and the Nalia rivers and embankments on both sides of these rivers.

16. Naldanga Union

According to the Chairman the union is flooded due to overflows from the Ghagot and rainwater congestion. He said that fifty percent of the land in his union is high and the rest low lying. Flood water remains for 2 to 2½ months during the year at a depth, he claimed, of five to six feet. Early flooding from rainwater causes damage to the boro crop . He suggested embankments on the Ghagot and drainage canals from low land would solve many of the flood problems.

17. Idilpur Union

The union Chairman said that flooding in his union was caused by overflows from the rivers Nalia and Aknira. There is no provision for drainage of rain water resulting in congestion. Flood water remains for 2-3 months during the rainy season at depths in places of over three metres. Unplanned rural roads without bridges and culverts are aggravating the flood situation.

To improve the flood situation he suggested excavation of the Nalia with embankments on both sides. He further suggested that adequate bridges and culverts should be provided on the rural roads.

18. Khubda Kamarpur Union

The Chairman mentioned that the reasons for flooding in his union were the same as in Idilpur union. Early floods due to rain damages fifty percent of the boro. Congestion remains for over one month. B aman is planted in low land and T aman in higher areas.

There are three beels in the union. One holds water round the year and this is used for developing fisheries. The other two dry out and he suggested these need to be connected to the Nalia for water supply and drainage.

19. Jamalpur Union

The Chairman said that there were two reasons for flooding in his union. One is due to overflows from the Ghagot and the other is huge inflows of water from Mithapukur area via Rasulpur. According to him eight mauzas along the Ghagot are badly affected and can only grow boro.

Flood height varies from five to eight feet. According to the Chairman the accumulation of silt since 1972 has been around ten feet.

As a remedy he suggested embankments on the Ghagot and excavation of the same river.

20. Kamarpara Union

According to the Chairman the embankment on the Ghagot has not been completed in some places. Because of this water from the Ghagot enters the union and causes floods. The situation is made worse by rainwater congestion.

He suggested that the remaining work on the embankment should be completed and sluice gates should be provided for drainage.

21. Vatgram Union

The flooding in the union is caused by overflows from the Ghagot and the absence of a proper drainage system.

The thana Agriculture Officer remarked that the source of the Ghagot and the Nalia is the Teesta and water coming from upstream is using the whole thana as a reservoir. Had the rivers been deep enough there would not have been any floods he added.

The thana Fisheries Officer said that fish resources in the thana had been decreasing due to siltation in the beels. He suggested that borrow pits should be made only inside the flood embankment and these should be developed into canals for pisciculture. He further suggested that nine beels in the thana should be improved for pisciculture.

2.3.4 Sundarganj thana

The discussions with the union Chairmen of Sundarganj thana was held in the conference room of the Parishad. The UNO, local officials and thirteen chairmen were present in the discussions.

22. Sarbananda Union

The union Chairman said that heavy siltation of the Ghagot was the main reason for the floods. Flood water from the Ghagot enters the union through the railway bridge at Bamandanga and damages crops in about 300 to 450 acres of low lying land where the depth of flood water can be up to twelve feet. In addition another 100-150 acres are inundated in the Shahbaj mouza of the union. The flood depth in this area is about four to five feet. Generally flooding starts in mid-July and stays until the end of

October. No damage is done to boro crop. He suggested that the flood problem might be solved by excavation of the Ghagot and by constructing a regulator at the railway bridge at Bamandanga.

23. Ramjiban 24. Dhopadanga and 25. Chaporhata Union

The nature of problem in these three unions is identical to the problem in Sarbananda union and the solutions offered were the same.

26. Chandipur Union

According to the union Chairman the flood in his union is caused due to breaches in TRE. He also mentioned that siltation of the Teesta was also causing floods.

27. Haripur Union

It was gathered from the union Chairman that the main area of the union was situated on the northern bank of the Teesta. Flooding in the southern part ie the right bank is caused due to breaches in TRE.

28. Sreepur Union

The union Chairman said that when the water level rises in the Brahmaputra the gate committee open the Sarai gate to protect the embankment causing flood water to rush into this union (six others also go under water). Flood depths vary from six to eight feet. Further flood water enters from the Brahmaputra through the Matherhat canal and causes floods in the union. He suggested that embankments on both sides of the Matherhat canal and an increase in the ventage of the Sarai regulator would improve the situation.

29. Kanchibari Union

It was reported by the union Chairman that two beels in the union were overflowing because of excessive rainwater and this caused floods in the union. As a remedy he suggested that a canal should connect these beels with the river in Sreepur and the Matherhat canal. This union is occasionally flooded due to breaches in BRE.

30. Santiram Union

The Chairperson of this union mentioned that breaches in BRE caused floods in the union.

31. Tarapur Union

According to the union Chairman flood water from the Teesta enters the union through the Mesnijan canal. About three quarters of the union is engulfed by the Teesta water as the embankment has already been washed away. The flood water remains for three month (June-August).

32. Sonaroy Union

This union is flooded due to overflows from both the Ghagot and the Teesta. The Chairman suggested that proper embankments on both rivers would save his union from floods.

33. Belka Union

Much of the area of this union has been eroded by the Teesta.

34. Bamondanga Union

The Chairman said that the union is flooded by overflows from Kala Nadi and the Ghagot and the situation was aggravated when water entered the union when the public cut the embankment at Masankura regulator.

He mentioned that if the suggestion of the Chairman of Sarbananda Union to put a regulator at the railway bridge at Bamandanga is implemented his entire union will have serious flood problems.

35. Dhopadanga Union

The Chairman suggested a sluice on the canal proposed in the earlier section on Kamarpara union would save his union from the adverse effects of floods.

3. Third Round Meetings 1-5 August 1992

3.1 Introduction

The third phase of this series of meetings was conducted in nine unions utilising villages which had already been the subject of earlier meetings. As described above the methodology in this phase was to take the FAP2 options back to the communities having analysed the solutions they had previously suggested and having compared them to the results derived from engineering and modelling concepts. Village women were consulted separately for their opinions on flooding and problems in their local areas. The meetings were all pre-arranged for this phase and the team consisted of:

Drainage Engineer (Local)	Animateur (Local)
Sociologist (Expat)	River Engineer (Local)
Sociologist (Local/Woman)	Sociologist (Local)

The options which were being taken by FAP2 to the communities were all or some or combinations of:

- a. Effective sealing of the Teesta Right Embankment (TRE);
- b. Removal of or increased ventage of the Manas regulator;

- c. Backwater embankments on the Ghagot in place of the Manas regulator;
- d. Sluice gate where the Ghagot meets the Alai in order to regulate flows down the Alai
- e. A khal (shortened interceptor) between the Bangali and the Brahmaputra to take excessive floodwater away from the area above Sariakandi. This khal will have backwater embankments on both sides to contain any backwater which comes into it from the Brahmaputra;

The numbers given to the areas correspond to those already allocated in previous visits.

3.2 Village Meetings

- 9. South Manduwar is an area between the Ghagot right bank and the main Gaibandha to Saidullahpur road. At a meeting of around fifty people it was explained that if the Teesta was sealed properly normal flood depths in their area would decrease according to the Mike 11 model by around one foot.

It was further explained that if the Manas regulator was removed and a backwater embankment built from the present BRE up the Ghagot the floodwater would only remain ten days as opposed to the two months they presently experience.

The meeting thought these were good solutions to their present flooding problems and remarked that if the projections were correct they would have no problem with ten days flooding and they could then plant a T aman crop. They also said that in the options offered there would be no need to re-excavate the Ghagot as the silt would not come from the Teesta and what is there at present would be carried into the Brahmaputra. More importantly they claimed that they would not need an embankment on the right bank of the Ghagot .

While the community was happy with the options they also suggested an extra one of their own which was cutting a loop of about sixty metres which would in effect move the Ghagot about half a mile away from the present location of their villages.

To sum up the FAP2 options wanted are:

Seal the Teesta effectively;

Dispose of the Manas regulator.

The effect of these on their previous solutions:

Now no need for an embankment on the right bank of the Ghagot;

No need to re-excavate the Ghagot.

- 22. Ramvadra is an area near Bamandanga Beel and in normal floods the low ground is under seven feet of water while the higher areas are under four feet. It was explained to them that sealing the Teesta would reduce the floods by nearly two feet. They were more than happy with this but claimed that other measures were also necessary since drainage was a perennial problem.

Since the natural drainage was into the Bamandanga beel they wanted the beel extended by 25 acres which would not only increase the drainage area but would extend the beel for local fishermen. They proposed digging this area to a depth of five feet for new water storage.

They said the khal which connects the beel to the Ghagot was also a problem and needed a regulator close to the river since in that position the railway would also be protected

The women in the community wanted shallow tube wells sunk for irrigation since they said too much water was being taken out of the beel by low lift pumps. They also wanted the Ghagot left embankment extended all the way up to Ramvadra and a sluice gate constructed to control the flow onto the surrounding land and beels.

In essence the only FAP2 option which they want as a priority is the proper sealing of the TRE.

21. *Bamanjal is another area which floods to a depth of seven to eight feet in normal flood seasons. They had previously wanted the ventage in the Mirganj regulator increased as floodwater from rain and from upstream at Masankura was causing them enormous problems.*

It was explained to them that effective sealing of the Teesta would reduce their floodwater by two feet by the MIKE 11 model calculations. They were happy with this and said that if this was the case there would be no need to increase the ventage at Mirganj. They would also be happy with rainwater drainage under these conditions.

They did, however, also want some options of their own and these were the extension of the khal from Masankura into Kalshar beel right through to the Mirganj regulator and if the TRE was sealed properly a sluice at Tambalpur to control floodwater into the Teesta.

The women also said that there would be no need for an increased number of vents at Mirganj if the Teesta was properly sealed.

In short the sealing of the TRE is for them a extremely positive option and will stop any changes in the sizes of ventage on internal regulators.

20. *Bholanath Hat meeting was attended by over two hundred people from there and surrounding villages. The model MIKE 11 results were explained to them demonstrating that if the Teesta embankment were sealed properly the normal floodwater in their area would drop by nearly two feet. They were happy with this but since they have seen the embankment disappear so often they also want three groynes constructed between Painalghat and Sundarganj.*

While a new embankment for these communities on the Teesta would be positive they also wanted sluices on the new TRE at Kaliganj to connect the Kata and near their own area at Bholanath Hat to connect the Burail to the Teesta. The women also wanted another sluice gate at Tambalpurchar.

This community has suffered since almost ten kilometres of the old TRE went into the river but they were adamant that the BWDB would not maintain new structures properly and wanted embankment committees formed from villagers who would oversee the maintenance of these structures. They agreed among themselves that the BWDB stole 75 percent of all contract money for embankment maintenance.

This community strongly welcome the establishment of a new strong TRE with appropriate sluices to control outflow of local rivers into the Teesta.

10. At a meeting of one hundred villagers in Rasulpur which is right beside the Manas regulator the concept of the removal of the Manas regulator and the construction of a backwater embankment on the Ghagot was vociferously rejected by all. The villagers said the Brahmaputra breaks into their land and destroys their crops with water and their land with sediment. They need the regulator to keep the Brahmaputra at bay.

They further claimed the backwater embankment would not work as the bank erosion on the Brahmaputra will destroy it eventually. They also said the only way to protect the communities along the BRE was to build a series of groynes between Kamarjani and Phulchari while periodically dredging the Brahmaputra.

The women in the village said the problem of the floods in the Brahmaputra started in Assam and wanted better bank protection. They also wanted regular dredging of Brahmaputra.

Essentially this community is only interested in the outcome of the FAP2 option regarding the Manas regulator. They would be prepared to see the ventage increased but on no account want it removed. They also want river training since they clearly understand that their communities are next on the list of Brahmaputra victims.

11. At a meeting in Gideri and Malibari attended by sixty people the options of removal of the Manas regulator and the Ghagot backwater embankment were explained. They said the removal of the regulator would be an advantage to them since the floodwater from their area drains in that direction and is halted by first the Sonail Embankment and then by the regulator.

They have always wanted to cut the Sonail embankment but said that if the Manas regulator was removed there would be no need to do this as the floodwater would only stay seven to ten days as opposed to the two months it does at present.

They also added that if you keep the Manas regulator in its present state there will need to be another one on the BRE to the north of the present one in precisely the place where the public presently cut the BRE.

The women said the floodwater came from the Teesta into the Manas and then onto their land. They also wanted to get rid of the Manas regulator as well as build a sluice in the Sonail embankment to help drain their land.

Sealing the Teesta was welcomed in these communities but more welcome was the option of getting rid of the Manas regulator since their problem with the Sonail embankment, according to them, would then be solved.

5. At Thansinghpur in Boalia union outside the Sonail embankment and east of the Alai river all options were spelled out to a meeting of nearly 250 members of this predominantly agricultural community. The entire range of options were felt applicable since the flooding faced by these communities is intense and complex and can be very destructive even in normal years.

They said even before the options were mentioned that they have nodrainage at all to either the south or east since a combination of the polder and the incapacity of the Alai river to handle the rainwater run-off from the west can flood their homes and land for up to five months. They said they ceased to grow T aman the day the polder formed by the Sonail embankment came into existence.

These communities have been breaching the polder every year but thought a combination of the FA option would solve this problem and bring some stability to their lives in any flood conditions.

They want all the options but also want a sluice and a khal built through the embankment to take the floodwater to the Brahmaputra. They still had doubts about the capacity of the Alai to take off the rainwater even with the full options but were prepared to see what happens. They thought perhaps the Alai should be re-excavated.

They did, however, mention that an embankment on the right bank of the Alai might solve the problem.

The women in this community wanted the Teesta sealed and an embankment on the right bank of the Alai. They also said the Katakali which joins the Alai to the Bangali also needed to be re-excavated to improve the drainage to the downstream areas. They also wanted a bridge on the Alai south of their community expanded to carry more of the floodwater.

They would be happy to see the Manas regulator remain but only if the ventage was doubled to twenty four from the present twelve. This is to prevent backwater from the Brahmaputra coming into the Alai via the Ghagot.

This community which has terrible flood problems wanted all the options and more in an effort to get relief from the problems they say were created by the Sonail embankment. If the options work as the MIKE 11 model predicts it will reduce or stop the public cutting the embankment as they do nearly every year

6. In a meeting held with about fifty farmers in Pearapur which again is outside the polder created by the Sonail embankment they told us that in the low lying areas nearby in normal floods the water is as deep as ten feet and can be of three months duration.

They claimed the Manas regulator was partly to blame as it consistently failed to drain the water from the Ghagot which then spilled into their areas via the Alai.

When all the options were explained to them they were extremely happy and said maybe they would not need sluice gates in the Sonail embankment to drain off their rain-water to the Brahmaputra. But they did want new sluices at Badiakhali and on the BRE at Kukrahat to pass water from the Alai through the Bura Ghagot, which is inside the polder, into the Brahmaputra. They also want the Bura Ghagot re-excavated.

Like the previous community they want all the options since they are also under floodwater for large parts of even normal flood years. At this meeting and the previous one the speakers were extremely volatile and expressed with considerable anger the problems the construction of the Sonail embankment had created for their communities.

Inasmuch as we can generalise from these communities to the entire Gaibandha Improvement Project and those communities nearby which will be affected by changes in the flood control and drainage systems the following schemata might sum up the general attitudes to the options presented by the FAP2 research.

The entire Gaibandha Improvement Project area and its surrounding communities:

Effective sealing of the Brahmaputra Right Embankment and prevention of riverbank erosion.

Northern areas around Sundarganj, Kaunia, Bholanath Hat and Bamandanga:

Sealing of the Teesta Right Embankment and improvement of drainage through existing khals and internal rivers will be positively welcomed. Some river training using groynes between Sundarganj and Kamarjani would also be welcome as a secondary option.

Western areas around the Gaibandha to Saidullahpur road on the right and unprotected bank of the Ghagot:

Sealing of the Teesta Right Embankment and removal of the Manas regulator would be welcome changes to the existing system. Some communities would also like loops in the Ghagot cut to take the river away from their land and homesteads.

Middle areas near the Manas river around Malibari and both Gideris:

Sealing of the Teesta Right Embankment and removal of the Manas regulator and better drainage to the Manas river would be strongly supported. If the Manas stays the ventage should be increased and perhaps a drainage khal through the Sonail embankment would be an improvement.

Communities immediately behind the BRE near the Manas regulator:

A significant improvement to the Manas regulator is preferred with groynes along the river banks of the Brahmaputra to train the river and stop the present bank erosion.

Communities along the Alai river and outside the polder created by the Sonail embankment:

Sealing of the Teesta Right Embankment accompanied by the removal of the Manas regulator would be an immense improvement but they also want a control structure where the Ghagot meets the Alai. To run off the heavy rainwater which inundates their land they would welcome the idea of a shortened interceptor below the area taking water from the Bangali into the Brahmaputra. Some of them would also like to see drainage khals going through the Sonail area to the Brahmaputra.

4. Fourth Round Meetings - 23rd - 27th August 1992

4.1 Introduction

To finish off the public participation exercise in the GIP the final round of meetings were exclusively carried out with officials since the third round had been exclusively with communities. Three general locations were selected namely Gaibandha Sadar, Sundarganj and Pirgacha. The same options that were taken to the villages were explained to the various officials encountered during this phase. These were:

- Sealing the Teesta Right Embankment and providing river training works;
- Sluice where the Ghagot meets the Alai;
- Dismantling of the Manas regulator and one outfall into the Brahmaputra for the Ghagot and Manas;
- Backwater embankment to be constructed on the right bank of the Ghagot;
- Loop cutting of the Ghagot where necessary near Gaibandha town.

The FAP2 team fielded for this round was as follows:

Team Leader (Expat)
River Engineer (Local)
Sociologist (Local)
Design Engineer (Expat)

4.2 Official Meetings

4.2.1 Executive Engineer BWDB Gaibandha

He began by remarking that the present situation in the district was normal and there had been no flooding from the internal rivers. The main problems was the usual one of erosion of the Brahmaputra both at Fulchari and upstream of the Manas regulator. At Manas they had to construct a ring bund in two locations with gunny bags filled with sand.

The executive engineer concurred with the FAP2 options for the district.

4.2.2 Deputy Commissioner Gaibandha

As he had recently arrived in post he was not able to give time for a meeting. It was agreed that a meeting would be arranged at a later date.

4.2.3 Thana Nirbahi (Executive) Officer Gaibandha Sadar

This meeting was attended by a number of local officials listed as follows:

Badiakhali Union Chairman	Ramchandrapur Union Chairman
Ghagoa Union Chairman	Gideri Union Chairman
Malibari Union Chairman	Shahapara Union Chairman
Lakshipur Union Chairman	
Thana Agricultural Officer	Statistical Officer
Assistant Commissioner Land	

When the options were explained the TNO remarked that another need was a connection between the Gaibandha town and the Ghagot to improve the drainage situation in the town. He also wanted a khal to be made connecting Katakali and the Ghagot river.

Most of the Union Chairmen were in agreement with the options with few modifications suggested by the following:

Malibari	Increase the ventage in the Kamarnai regulator to improve the drainage out of that union into the Ghagot.
Badiakhali	This chairman was insisting on the re-excavation of the Ghagot but when it was explained that the dismantling or disappearance of the Manas regulator would deepen the river he accepted the prognosis.
Ghagoa	He thought the options must be accompanied with protection of major river banks.
Gaibandha	He wanted a better internal drainage system with a number of road culverts connecting padi land to the Ghagot

4.2.4 Sundarganj Thana

The meeting was attended by the following officials:

Sub Assistant Engineer
Planning Implementation Officer
Family Planning Officer

The FAP2 engineer explained the extra options for this area:

- Sluice gate on the off take of the Katanadi
- Sluice gate downstream from Tambulpur

The options generally were accepted by those present with reservations expressed that if there was no new structure at Sundarganj bridge the Thana headquarters would be in danger. The meeting also, while accepting the need for major embankment improvement, suggested that the embankments on the Teesta and the Ghagot must be very strong.

4.2.5 Pirgacha Thana

The following officials attended this meeting:

Thana Nirbahi Officer Principal Pirgacha College

Chairmen

Itakumari Union

Kallyani Union

Kaikuri Union

Parul Union

Pirgacha Sadar Union

They all agreed in principle with the major options but wanted the following local amendments:

- Re-excavation of the Alai Kumari from Rangpur to Mitapukur by a depth of two metres in order to provide quick drainage to the Ghagot and to increase storage for irrigation;
- The construction of a regulator on the Teesta embankment to allow water into the Alai Kumari for dry season irrigation;
- Draining all local rain water into the Burail by re-excavation of it while closing off the khal connecting it to the Alai Kumari since this khal is overloaded by water pouring into it from the Burail.

APPENDIX C

EXAMPLE OF QUESTIONNAIRE DESIGN

A number of different questionnaires were utilised in the northwest regional surveys. One example of these is given below and refers to the study of Chalan Beel contained in both chapters two and three of the report.

CASE STUDIES OF CHALAN BEEL HOUSEHOLD SURVIVAL STRATEGIES

Sl. #

--	--	--	--	--	--

Name of Respondent :

Village :

Union :

Upazila :

Districts :

Household members

Number Name	Relation to head of hh. (a)	Sex Male = 1 Fem = 2	Educa- tion (c)	Age	Main (b) Occupation	Other (b) Occupation
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

(a) 1 = Head of household

2 = Wife of head of hh

3 = Son of h of hh

4 = Daughter of hhh

5 = Wife of son of hhh

6 = Father of hhh

7 = Mother of hhh

8 = Grand son

9 = Grand daughter

10 = Brother of hhh

11 = Sister of hhh

12 = Others (specify)

(c) 0 = Illiterate

1 = Primary

2 = Secondary

3 = Higher Secondary

4 = above

(b) 1 = Working on Own Land/Share Cropped Land/Embankment Land

2 = Crop Processing

3 = Cattle Rearing/Small Livestock Rearing

4 = Fishing/Fish Trading

5 = Agricultural Labour

6 = Cart Driving/Rickshaw Pulling

7 = Boat Driving

8 = Non Agricultural Wage Labour (including seasonal earthwork)

9 = Petty Trading

10 = Permanent Labour

11 = Working in Others House

12 = Reed and Fuel Collection

13 = Domestic Work

14 = Cattle Herding

15 = Student

16 = Others

Household Condition

	Items	Number/ Status	Distance to travel for water (km)
a)	Number of rooms		
b)	Sources of drinking water		
c)	Sources of water for cooking		
d)	Sources of bath water		
e)	Sources of fuels		

Code :

(a) 1,2,3,4,...

For items b, c & d

Tubewell = 1, Well = 2, Pond = 3, River = 4 (Note: more than one code may be applicable.)

For Item: E

- Wood own = 1
- Wood purchased = 2
- Wood collected = 3
- Crop residue own = 4
- Crop residue purchased = 5
- Crop residue collected = 6
- Cowdung own = 7
- Cowdung purchased = 8
- Cowdung collected = 9
- Leaves of tree own = 10
- Leaves of trees purchased = 11
- Leaves of trees collected = 12

Non-Land Assets

Asset Type	Own	Hired	Rented-in(a)	Rented out	Total
Boat					
Cart					
Fishing net					
Rickshaw					
Pond					
Water Bodies: - Fishing					
- Reed collection					
Dheki					
Gur press					
Oil press					
Other					

Code for rented-in :

1 = Private, 2 = Upazila, 3 = WDB, 4 = RH&D, 5 = Railway, 6 = District, 7 = Others.

Asset Type	Rent received	Rent Paid	Gross Income	Cost	Net Income Received
Boat					
Cart					
Fishing net					
Rickshaw					
Pond					
Water Bodies: - Fishing					
- Reed collection					
Dheki					
Gur press					
Oil press					
Other					

Domestic Cattle and Bird

Cattle/ Bird	Own	Rented-in	Rented-out	Gross Income	Costs	Net Income	Source(s) of Income
Cow							
Bull							
Calf							
Goat							
Poultry adult							
Poultry chicks							
Duck adult							
Duck Chick							
Buffalo							

* Code for sources of income:

- Selling milk = 1
- Selling for meat = 2 hiring out for ploughing = 4
- Selling for rearing/breeding = 3

Land Owned/Operated

		Area rented-in/ S-C in(ac)	 -----
Total area owned (ac)	 ----- 	Area rented-out/ S-C out(ac)	 -----
Homestead (ac.)	 ----- 		
Cultivable (ac.)	 ----- 		
Area cultivated (ac)	 ----- 		
Area mortgage-in (ac.)	 ----- 		
Area mortgage-out (ac.)	 ----- 		

Change in the land ownership in last five years_

- i) family land inherited _____
- ii) purchased land _____
- iii) khas land recieved _____
- iv) land sold _____
- v) reason for selling _____ :

Monthly Employment by Occupation for Each Member of the Household

Occupation Type:

1. Working on Own Land/Share cropped land/homestead land
2. Crop Processing
3. Cattle Rearing/Small livestock rearing
4. Fishing/Fish Trading
5. Agricultural Labour
6. Cart Driving/Rickshaw Pulling
7. Boat Driving
8. Non Agricultural Wage Labour (includes seasonal earthwork)
9. Petty Trading
10. Permanent Labour
11. Working in Others House
12. Reed and fuel collection
13. Domestic work
14. Cattle herding
15. Other

Family Members	Months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
e.g	1/20	2/15	2/15	1/10	1/10	1/20	1/25	1/10	3/15	3/10	1/20	1/20
1												
2												
3												
4												
5												
6												
7												
8												

Wage rate or income (where not already collected)

Family Members	Months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1												
2												
3												
4												
5												
6												
7												
8												

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