

Summary of analysis of the house to house interviews with the 1997 Workshop Participants.

Raw data and extensive details of the analysis are held by the field worker. **Abbreviations:**

CD = Chetonar Dak (the village NGO which hosted the workshops).

BHC = The British High Commission in Dhaka.

CI == Corrugated Iron sheet

H&H = Housing & Hazards

1. Evaluation of attendance issues.

No. of days on which workshops were held = 7. (Most of men and women's workshops held separately.)

1.1 Women's attendance:

No. of women attending = 22 women

No. of women attending all 7 workshops = 6 women

No. of women attending 3 or less workshops only = 6 women

Total number of workshops attended by women = 107.5 workshops

Av. no of women per workshop = $107.5/7 = 15.35$ women

Av. no. of workshops attended by each woman = $107.5/22 = 4.89$ workshops

1.2 Men's attendance:

No. of men attending = 18 men

No. of men attending all 7 workshops == 4 men

No. of men attending 3 or less workshops only = 3 men

Total number of workshops attended by men = 90 workshops

Av. number of men per workshop = $90/7 = 12.85$ men

Av. number of workshops attended by men = $90/18 = 5$ workshops

1.3 Issues affecting women's attendance:

Reason for non attendance	Detail of non-attendance	Total non attendance
Attending weddings	3 people each missing 1 workshop	Total workshops non attendance = 3.
Finding it difficult to understand workshops, leading to feeling uncomfortable. Also feeling that workshops are too long, and therefore preferring to go away to a cousin's house	1 person, missing 5 workshops	Total workshops non attendance = 5

Participant illness (colds, coughs, diarrhoea)	person missing 1 workshop, person missing 2 workshops.	Total workshops non attendance = 3
Having missed a workshop because of a wedding (accounted for above) felt too shy to return to the workshops	person missing 3 workshops	Total workshops non attendance = 3
Working for someone else therefore unable to be available	person missing 3 workshops	Total workshops non attendance = 3
Relative sick	person missing 2 half workshops, 1 person missing workshops	Total workshops non attendance = 4
Visiting relatives	1 person missing 1 workshop	Total workshops non attendance = 1.
Post funeral memorial service	person missing 1 workshop	Total workshops non attendance = 1
Husband not willing to look after baby (and also not finding things easy to understand)	person missing 6 workshops	Total workshops non attendance = 6
Sister in law dropped out of 6 workshops and hence young female participant felt lonely and shy. Also was supposed to be attending school	person missing 6 workshops	Total workshops non attendance = 6
Moving to Dhaka for education	person missing 3 workshops	Total workshops non attendance = 3.

1.4 Issues affecting men's attendance:

Reason for non attendance	Detail of non-attendance	Total non attendance
Visiting relatives	person missing 2 workshops	Total workshops non attendance = 2.
Preparations for celebrations of daughter's year wedding anniversary	person missing 4 workshops	Total workshops non attendance = 4.
Too busy with other work	person missing 1 workshop, person missing 5 workshops, person missing 3 workshops, person missing 4 workshops, 1 person missing 2 workshops, person missing 1 workshop	Total workshops non attendance = 16.
Unaware of the other workshops happening	person missing 6 workshops.	Total workshops non attendance = 6.

Missed first workshop because late invited as a replacement for another participant who had dropped out of the workshops	person missing 1 workshop.	Total workshops non attendance = 1.
Too busy with work at that time of year and also already knew all the ideas that were being discussed	person missing 3 workshops.	Total workshops non attendance = 3.
Illness of a relative	person missing 2 workshops	Total workshops non attendance = 2.
Preparation for daughter's wedding	person missing 3 workshops	Total workshops non attendance = 3.

N.B. 7 men either claimed to have attended many more workshops than they actually did or could not remember how many they had attended.

1.5 Attendance issues and recommendations:

Four of the female participants were under 16 years old. None of them have shared ideas with other people. Two of these young girls felt lonely and shy at workshops and dropped out of the course after 1 and 2 workshops. The youngest male attending was 20 years old. Preferable not to invite youngsters under 16 years old.

CD said they had invited these young girls so that CD could get the girls to do H&H promotion work for free. Evidence suggests that these youngsters would have very little motivational effect in the community.

Poster/ education programmes in school setting may be an alternative option, but not a priority in terms of immediate impact (none of these youngsters have been able to catalyse the use of H&H ideas in their own homes even though two of these youngsters' homes are in need of repair following the '98 floods).

The attendance registers show that the participants were drawn from 16 paras only, with one para even being the home of eight participants. The survey shows that only 5 participants have shared H&H ideas with people who live outside their own para. But in only one of these instances were ideas shared further afield than the next door para. 14 participants had shared ideas with neighbours within their own paras (10 paras in total). Of these, 7 participants confirm that these ideas had been implemented by their neighbours.

There was a lack of representation by people from the north and south west of Sundarban attending the workshops. It is necessary to make sure that participants are selected from a much wider spread of paras in the community with a maximum of two coming from each para, so that the chances of ideas spreading to a larger number of neighbour paras is increased.

We need to target people who are just about to build/ carry out repairs. But therefore it may be necessary to hold the 7 workshops over a shorter period than 7 weeks although it should be noted that a lot of preparational work including procurement of materials is necessary for each of the workshops. May need to hold a later workshop for the review of the demonstration building, since this building will take a while to complete.

For the women's workshops, the employment of a woman to provide a creche for young children should be considered.

Many people had other engagements which meant they could not avoid missing some workshops (total workshops non attendance for such reasons =23). H&H can do little in these instances to help improve attendance, but this situation highlights the need for follow-up activities and materials to help these participants catch up on what they have missed.

Having missed some workshops, some participants felt too shy to rejoin. The workshop facilitators, whilst encouraging people to attend as many of the workshops as possible, should reassure the participants that they should not be afraid to rejoin the group and that the facilitators will help them with information that they feel they have missed.

Some people did not attend all the workshops because of pressure of work (total workshops non attendance for such reasons =19). A further non attendance of three workshops was cited because of employ outside the home. This highlights the point that attending a long series of workshops represents for some people an opportunity loss in terms of income, that they cannot afford. Ideally workshops should be held at times of the year where agricultural activity is at its lowest and therefore opportunity loss is reduced. Some people however, especially those who live at a more extreme level of 'hand to mouth' poverty (estimated as being at least 9 of the workshop participants) may find the need for income greater than the desire to attend the workshops. Perhaps a way to offset this problem would be to employ these people in the labour required for preparation of materials for the workshops, and in the construction of the demonstration building accompanying the workshops. Care and fairness will need to be applied in ascertaining which of the participants who will need this form of help and encouragement to attend. It should be noted, however, that 4 of the people considered as living in 'hand to mouth' poverty actually had good attendance records, attending 6 or 7 workshops. It should also be noted that 3 of these 9 poorer participants were day-labour builders.

I notice from the workshop manual that great effort was made to remind people at the end of the workshops of the date and time of the following workshop. Some people, nevertheless, were still not aware of the subsequent workshops or were late in arriving. I have noticed in Sundarban that it is easy for people to have difficulty with time and date keeping. Sound carries fairly well in this flat terrain, and maybe a loud bell/ loudspeaker could be used to alert people to the imminent starting of the workshops. I also note that women are often busy in the mornings with domestic and farm work, and find it difficult to arrive by 9 o'clock for appointments. The lunch time food is often prepared early in the morning (and eaten cold later at about one o'clock or so.) Female participants are likely to be free by 10 o'clock. Although many men found that they had other work to do in the morning (when the Sundarban workshops were held), in general, men are busy preparing for marketing in the afternoon and are likely to be even more unavailable then.

2. Participants* experience of hazards between the 1997 workshops and December 1998.

2.1 Data

During the interviews with the workshop participants, the participants were asked to describe the hazards which had occurred since the time of the workshops. This was in order to augment information about:

- the severity and effects of the hazards upon houses that had already used H&H ideas (discussed later),
 - the severity and the effects of the hazards on houses in general,
 - how families and especially women have been affected by the hazard,
 - whether and why some people were not affected by the occurrence of hazards. The participants' responses are shown below:

Participant name	Hazard event?	Suffering?	Avoidance of suffering?
Female participants	Flood		No suffering because our room was a gholā ghor (a house raised on brick pillars above the ground) and so it was not damaged.
Basonti Roy			
Minu Rani Roy (n.b. mother heads household)	Flood, excessive rain.	My mother (who is a widow and lives alone now - participant moved to Dhaka) couldn't do the cooking and had problems staying in the house.	
Bilkis Bewa (n.b. widow)	Not available for interview		
Nelima Rani Roy	Flood, excessive rain	The men of the family lived in a CI sheet tent which acted as a kitchen. We women stayed in a friends house for a few days and then went back to our house. We had many cooking problems.	
Janata Rani Roy	Flood.	Husband did not sleep for 4 nights because he was worried that the flood would come.	
Kachu Roy			House was not damaged in the rain because of the bao chal and because the roof is strong.
Kiron Bala Roy (n.b. hand to mouth poverty)	Flood.		House is very high up.
Onima Roy	Heavy rain	Cooking problems.	
Onjoli Rani Roy	Not available for interview.		
Shanti Bala Roy			Land very high, house very strong.
Jayanti Rani Roy			Land high, foundation strong.
Minoti Roy			Land very high, strong house has bao chal.
Sumi Bala Das (n.b. hand to mouth poverty)			Foundation very high and have bao chal.
Hazera Akhter			House is very high and rooms are strong and are repaired every year
Rina Rani Roy (n.b. mother heads household, hand to mouth poverty)	Flood and heavy rain.	We went to stay in a neighbours house, and could not go to the market and could not buy basic needs like food because of the flood.	
Bindu Bala Roy (n.b. hand to mouth poverty)	Flood.	All the family stayed in someone else's house for 3 or 4 days. Many cooking problems.	
Surjo Rani Roy			Land high and foundation strong.

Niva Rani Roy	Flood and excessive rain.	Many problems for the animals.	Family was OK because the foundation is high.
Jayanti Bala Roy			House is strong.
RasonaRani Roy			House is strong.
Befala Rani Roy (n.b. hand to mouth poverty)	Lots of rain and floods.	We went to stay in my son's house and were therefore living with all his extended family. We had problems living together and I felt very shy.	
ShantiRani Roy.	Flood		Our 2 gola ghor are high up and the cooking house is on high ground. The flood did not reach our concrete house.
Male participants	Flood and excessive		Flood did not reach the house. Rain was not a problem because some of
Koilash Ch. Roy	rainfall.		our houses have CI sheet rooves.
Khira Mohon Roy	Flood, unbearable winter, excessive rain, cyclone.	Difficult to move, eat and sleep. Worst time ever of mental and financial suffering. The children had fever and colds.	
Udoy Kumar Roy	Flood, excessive rain and cyclone.		The foundation is very high.
Thushar Kanti Roy	Cyclone and flood.	Difficult to get around.	The foundation is very high and the house is strong because its joints are bound with wire.
Ful Mohon Roy	Flood and excessive rain.	Had to stay on the road. we had problems with eating, sleeping and with the animals. My wife had a fever and a cold.	
Subodh Roy	Flood and excessive rain.	Had to stay on the road. Worst disaster since 1975 but even then it lasted a shorter time. Problems with eating and sleeping. Very difficult time.	
Foni Bhuson Roy	Flood and excessive rain.		Foundation high and strong.
Harendro Nath Roy (n.b. hand to mouth poverty)	Flood and excessive rain		The floods and rain didn't really harm our living room.
Omarchand Roy	Floods and excessive rain.	The excessive rain fell inside die sleeping house and broke the wall. We could not sleep. The CI sheet was not good and wind drove the rain underneath. The bao chal was not good and therefore the walls were damaged. The rice straw part of the roof was completely demolished by the rain.	
RayzakAli	Not available for interview		
Riojuddin	Flood and excessive rain and a little cyclone.		The foundation is high and we have a hipped CI sheet roof.
Horish Ch. Odhikari	•Flood	Because of the flood the base of the wall got soaked and was therefore weak and fell down.	But the kitchen wall is not important so we did not suffer.
Tohidul Islam	Flood		We have a brick house with CI sheet and roof tiles.
Chonchol Roy	Flood and excessive rain.	We couldn't get around. The animals suffered much and I worried much.	But the family did not suffer because the sleeping house was OK and no-one was ill.
Mohon Chondro Roy	Flood and excessive rain.		No heavy damage.

Onunto Roy (n.b. hand to mouth poverty)	Flood and excessive rain.	The roof fell down so we got very wet going to Ranibandar market to get plastic for the cooking house, we had problems cooking and eating.	
Rohini Roy (n.b. hand to mouth poverty)	Flood and excessive rain and cyclone	Very difficult to move around during the flood. My wife and son suffered with illness.	
Toroni Kanto Roy (n.b. hand to mouth poverty)	Flood rain and cyclone.	Untold suffering. We had problems with eating and sleeping. (Participant and family now living in kitchen.) I could not find any day labourer work and therefore could not get food. Did not have enough clothes and so had to wear wet clothes.	

2.2 Comments and Recommendations.

13 participants said that their homes were not affected by the floods of 1998 because their houses were on high land or had high foundations. Raised foundations are typically built with clayey building mud which not all people have easy access to. Hence any results coming out of BUET which enable people to use as much local mud of less clayey quality as possible, will be a great help. The workshops and ancillary activities should aim to promote any such results widely. BUET advocates the use of a hammer for compaction of the foundation for proper durability. Ideally, hammers should be held at workshop host organisations for lending out to people when they build and repair their house foundations (plinths). Gola ghors (houses raised on stilts or brick piles) also fare well in floods because of their height above ground. But because of the cost of bamboo, gola ghors are becoming an expensive house form with at least 50 long bamboo at 50 Taka a piece (a days' wage) being needed to construct the house floor.

During the interviews, 12 participants reported that their thatch rooves had been damaged during the floods in 1998, and 2 of these participants explained since the roof was broken, the rest of the house was ruined by the rain. 3 participants mentioned that the bao chal (verandah thatch) on the house had afforded them protection against the rain. Other observations in the field have supported these comments. Good roof construction and maintenance with a substantial overhang of the roof over the walls or bao chal is clearly an important factor in housing hazard resistance. The Chantal tribal group's houses are very good demonstrations of how mud houses can have a life of at least 20 years if protected by a substantial thatch and overhang. It should be noted however, that in Craterre's publication '*Earth Construction*' it is recommended that in countries where high winds are a problem, roof overhangs should be no greater than 50 cm. This provides a conflict for best practice in a country where both high winds and severe rainfall both pose a threat, especially to mud houses (-13 participants reported flood/ rain damage of massive/plastered mud wall houses).

The workshops looked at value for money roofing materials and found that sugar cane leaf thatch in particular is very good value for money, lasting 8 years if well thatched. The participants were asked during the interviews which material they would recommend to poor people for the best durability at the least cost. No one advocated the use of rice straw. However, it was also clear from the interviews that many people are indeed using rice straw, especially for the non living/sleeping rooms. 2 people recommended CI sapra sheet, and only 6 people chose to recommend sugar cane straw. 14 people preferred to suggest wheat straw. The participants referred to both sugar cane and wheat straw as being locally available, cheap and durable. I can find no reference in the 1997 workshops report to the value for money attached to wheat straw. Certainly, I have observed that rice straw is a poorer quality thatch than wheat or sugar cane,

absorbing and failing easily in heavy rain, and is often thinly thatched. Wheat straw does seem to be grown by more people than sugar cane and therefore is probably preferred because of its availability even though its life span (2 years) is less than sugarcane (8 years). If people prefer to use wheat straw therefore, the workshops must place even heavier emphasis on the importance of maintenance of thatch and maintenance in general.

10 people reported that they suffered with problems associated with cooking and eating and 7 participants reported that their kitchens were damaged during the floods. The survey showed that typically the kitchen is less well built than other buildings within the homestead. In conversations with Mrs Dabnaht who runs a women's refuge, she explains that decisions about building tend to be the province of men. Understandably, the living and sleeping house tends to be the best built of the homestead buildings since sleep, and the family possessions that are stored in the sleeping room, are much valued. However, areas where the women work and spend much of their waking hours (especially for Muslim women who tend not to leave the house), such as the kitchen, are not deemed worthy of much consideration when building decisions are made.

Hence the kitchen is one of the first buildings to suffer damage during hazard events, putting immediate stress on women, whose responsibilities and work lie in the kitchen. Working in the rain or cold also makes women more vulnerable to cold and fevers adding extra burden to their workload.

It seems prudent therefore, that in seeking to mitigate the effects of hazard on the family and especially on women, that H&H should pay special attention to motivating better building of the kitchen, during the workshops.

In total, 18 of the workshop participants reported suffering during the workshops. With an improved rate of implementation of H&H ideas in the future, hopefully such a number would be reduced.

3. What is the implementation/ follow up of H&H ideas by participants?

Participant name	Buildings destroyed/ damaged during	New buildings constructed/ building	H&H ideas used in	Participant's understandi	Follow up activities agreed by all	Implementa tion of that follow up?
Female participants BasontiRoy		Brick damp proof course laid under	Brick damp proof	Protects wall from pests.	Not present at the workshop at	
MinuRani Roy (n.b. mother heads	Kitchen roof destroyed	Changed thatch.			Not present at the workshop at	
Billds Bewa (n.b. widow)	Unavailable	for	interview			
Nelima Rani Roy	2 mud wall houses destroyed because there was no bao chal and therefore				Use the ideas ourselves and share them with	Have not shared ideas yet because I

Janata Rani Roy	Mud walled kitchen destroyed	Kitchen mud wall and wheat straw roof being rebuilt and enlarged to make two kitchens so that participant can do cooking separately from husband's family. (Want to build a gola ghor also but husband doesn't have time.)	'Kata' process and choice of wheat straw roof.	If don't use 'kata' process mud wall will break from top to bottom.	Use die ideas ourselves.	Yes.
Kachu Roy					Use the ideas ourselves and share them with others.	No, because my house has not been damaged.

Kiron Bala Roy (n.b. hand to mouth poverty)					Use the ideas ourselves and share them with others.	No, because my house has not been damaged.
Onima Roy	Kitchen destroyed because bamboo pillars were weak				Not present at the workshop at which agreement made.	
Onjoli Rani Roy	Unavailable	for	interview			
Shanti Bala Roy					Use me ideas ourselves and share diem widi odiers.	No, because my house is fine.
Jayanti Rani Roy					Use die ideas ourselves and share diem widi odiers.	No.
Minoti Roy					Use the ideas ourselves and share difim widi odiers.	No, because my house has not broken.
Sumi Bala Das (n.b. hand to mouth poverty)		Meeting room for Grameen women's credit group. Has mud walls and sapra CI sheet roof.	Used mud, sand and rice husk in mud wall, bao chal, alternating stick system for roof, and roof frame is comer braced.	With these ideas the room will last a long time and be hazard resistant.	Use die ideas ourselves and share diem widi odiers.	Yes.
Hazera Akhter					Use die ideas ourselves and share diem widi odiers.	No.

RinaRani Roy (n.b.mother heads household, hand to mouth poverty)	Kitchen and bedroom walls had fallen in.	Mud cooking house with rice straw roof rebuilt and mud wall bedroom with sugar cane roof repaired.	The choice of sugar cane straw for thatch.		Not present at the workshop at which agreement made.	
Bindu Bala Roy (n.b. hand to mouth poverty)	Roof damaged and boundary wall broken.				Can't remember.	I haven't used H&H ideas because we are too poor to repair our house.
SurjoRani Roy					Use the ideas ourselves and share them with others.	No.
NivaRani Roy	The walls and rooves of the kitchen and animal houses were damaged.				Use the ideas ourselves and share them with others.	No, because I have not yet repaired the house.
Jayanti Bala Roy					Not present at the workshop at which agreement made.	
Rasona Ram Roy						
Befula Rani Roy (n.b. hand to mouth poverty)	One mud wall of the living house collapsed.	Jute carpet hangs where the wall was.			Not present at the workshop at which agreement made.	
Shanti Rani Roy.		New gola ghor with sapra CI sheet roof built as store house and new concrete living house built, because strong store and living houses needed.	Gola ghor uses alternating stick system for securing roof, joints bound with wire, walls cross braced.	House will be strong in cyclone.	Use the ideas ourselves and share them with others.	Yes.
Male participants	Outer edge of foundation and roof thatch damaged (not the living house).				Use the ideas ourselves and share them with others.	Yes.
Koilash Ch. Roy						
Khirmohon Roy	Some mud houses damaged.				Use the ideas ourselves and share them with others.	No. People have not used and shared H&H ideas because it is hard for us to rebuild after the floods because there is not enough money. Therefore people can only rebuild in a poor way just to get by.

Udoy Kumar Roy		Mud boundary wall with animal house attached, and want them to last long in the future.	'Kata' process for mud wall.	Stops cracks appearing in mud wall.	Use the ideas ourselves and share them with others.	Yes.
Thushar Kanti Roy					Share ideas.	No, because no-one has built a house
Ful Mohon Roy	Mud house and mud boundary wall broken.	New animal house built and boundary wall repaired.			Can't remember.	
Subodh Roy	Mud wall broken.	New gola ghor built because son newly married.	Walls cross braced, bao chal, comer bracing.	Cross bracing is necessary because gola ghor have no pillars in the ground.	Not present at the workshop at which agreement made.	
Foni Bhuson Roy					Use the ideas ourselves and share them with others.	No, I have not shared the ideas because no-one will be convinced to spend the extra money.
Harendro Nath Roy (n.b. hand to mouth poverty)	Thatch and one mud wall broken (not living room).				Use the ideas ourselves and share them with others.	No.
Omarchand Roy	Mud living house wall broken because the CI sheet was not good and the wind drove the rain under. Wall also damaged because the bao chal was not good. The rice straw part of the roof was completely demolished by the rain.	Temporary sleeping house. Will be rebuilding sleeping house soon.			Use the ideas ourselves.	Not yet.
Rayzak Ali	Unavailable	for	interview			
Riojuddin					Use the ideas ourselves.	No, because there is no H&H motivator working in the community.
Horish Ch. Odhikari	The bottom of the kitchen mud wall got soaked by the flood and fell down.	Changed bamboo pillars and changed the thatch, so that the house will last long.	Scorching the pillars and painting them with tar.	Pillars will not be affected by insects and will not rot early of during hazards.	Use the ideas ourselves and share them with others, and hold follow up meetings every 4 months.	No.
Tohidul Islam					Use the ideas ourselves and share them with others.	No-

Chonchol Roy	Thatch of animal house rooves rotted.				Use the ideas ourselves and share them with others by making an ideas sharing team.	No.
Mohon Chondro Roy	Thatch rotted and boundary wall broken.	Boundary wall repaired.			Use the ideas ourselves and share them with others.	Not yet.
Onunto Roy (n.b. hand to mouth poverty)	Kitchen thatch rotted and fell down.	New rice straw thatch on animal house. (May make new living house soon also with rice straw thatch).			Use the ideas ourselves and share them with others.	Yes, but the people don't listen.
Rohini Roy (n.b. hand to mouth poverty)	Thatch rotted.	2 new sleeping rooms, because strong living rooms needed.			Use the ideas ourselves and share them with others.	Yes.
Toroni Kanto Roy (n.b. hand to mouth poverty)	Thatch rotted and living house was destroyed (participant and family now living in the kitchen).				Cant' remember.	

3.1 Implementation of H&H Ideas - Comments and Recommendations.

20 participants reported damage to their buildings caused by hazards occurring between the time of the '97 workshops and December '98. Of these 20, only 6 participants have conducted remedial building works. Of these 6, only 2 have reported using H&H ideas.

8 participants have made new buildings/ building improvements which are not a response to hazard damage. Of these 8, 6 have used H&H ideas.

In total therefore, only 8 out of 40 participants have put H&H ideas into practice. All these participants were able to demonstrate some understanding of the principles behind the H&H ideas they had used.

Of the 24 participants who have not carried out any building/ improvement works, 6 of them explained that they have not done so because their house has not been damaged. This follows the old adage, 'if it ain't broke, don't fix it'. The results suggest that people are unlikely to consider building work unless: i) they have available cash for an entirely new building project or, ii) damage caused by a hazard event forced them to take action. In the case of the former (5 participants) 4 of the participants used several H&H ideas and 3 of these people also had ready cash to employ builders. This suggests that those who embark on entirely new building projects are likely to be better off and thereby also able to spend the extra to use H&H ideas. (The one participant of this group who did not use H&H ideas had only attended 1 workshop). Indeed the amount of H&H ideas used by each of the participants of this group compares well to the 9 instances of repair/ improvement works in which 2 participants used 2 ideas each, 2 participants used 1 idea each, and 5 participants used no H&H ideas at all. In the second case of people who are building in response to hazard damage, we see that there is a very low rate of use of H&H ideas in this building work (2 participants only). Even worse is the number of people who have not yet started to repair/ replace their hazard damaged buildings (14 participants). One of the participants suggested an analysis for this situation: "it is hard for

us to rebuild after the floods because there is not enough money. Therefore people can only rebuild in a poor way just to get by." This predicament is further explored in another of the interview questions in which participants were asked about the H&H workshop demonstration building in Sundarban (used as a sewing training centre), and whether they thought that poor people would be willing to spend extra money to make their houses strong like the sewing centre. Of the 30 participants who answered the question (the others did not answer if they had not attended the last workshops during which the demonstration building was discussed and built), only one participant said without reservation that poor people would agree. The other 29 gave the following answers:

- 5 people said that poor people would only agree if they really understood the H&H ideas and their value.
- 4 people said 'no' at first, but then considered that with understanding it may be possible to convince poor people.
- 1 person said 'no' at first but then suggested people might agree if they were given a housing loan.
- 1 person said definitely no.
- 18 people said that poor people would not agree because it would be too expensive to purchase the extra materials necessary to implement the demonstration building ideas. Of these people, some pointed out the materials which they thought would be too expensive :
 - bricks (used for the damp proof course) - 2 people;
 - bamboo - 5 people;
 - straw (for the bao chal thatch) - 1 person;
 - CI sheet (for roof); 1 person.

The demonstration building was described by one participant as being like a "rich man's bedroom". Another described the building as being "equivalent to 4 houses built in the general way". This suggests that the demonstration building is not viewed as favourably as we would hope. It may be that the sewing centre, being a public building, is just too big, and a smaller house might be seen in a better light. But I think it is more likely that the problem is simply that people are not well enough off to afford any extra on building materials.

I have been observing one of the H&H demonstrators who is a day labour builder, as he built his gola ghor. Even he, who is very well disposed towards H&H ideas was building gradually as money came in (helped by the wages we were paying to his wife who was our cook). On days when he had enough money, he would stretch to use H&H ideas such as painting bamboo pillars with tar. On days when money was short, he put pillars in without tar treatment. His need to get the house finished (his other house had fallen down and he and his wife were sleeping outside), was a greater force than any thoughts of waiting for a few days to accumulate the funds to make the house much more durable.

Even though the H&H workshops initiative has been conceived in order to address the situation of housing vulnerability of the poorest in society, it is becoming clear from this evaluation that the workshop activities as they stand, do not overcome the economic pressures and ways of thinking about resource allocation that are prevalent in this poor community. As Robert Hodgson (H&H co-ordinator) has already suggested, we need to aim the workshops at convincing people of the economic sense of the H&H ideas, but this evaluation suggests that targeting builder employers (as had been suggested in the field work brief) will not capture the people who are influenced most by these economic issues, i.e. those who cannot typically afford to chose to use builders. We need to understand a lot more about how the H&H process can help people to improve their housing within the context of these pressures. It seems likely from these results that H&H will need to consider a combination of further motivation activity and also tailored/ specified targeting of material assistance.

Motivation activity includes continuation of the workshops, but with a clearer understanding of how the workshop content can be developed to deal with economic issues. Motivation activity, as suggested by the women participants, also needs facilitation by a H&H field worker in each of the workshops' host areas. This field worker would also be able to conduct follow up activities which are discussed below.

A number of follow up activities were agreed at the end of the 1997 workshops with the participants and the host organisation. These activities were:

- i) meetings of the workshop participants to be held twice a year and facilitated by CD,
- ii) Song team performances called by the paras and organised by CD,

- iii) post painting (bitumen) to be done by CD's builder for 2 Taka a piece,
- iv) CD to provide paintbrushes for lending,
- v) H&H ideas to be implemented by participants and also shared with neighbours.

Funds were raised from the British High Commission and given to the host organisation for activity ii) and also for further workshops and demonstration buildings, but these things have not been done because funds for these purposes were improperly used.

Activity v) has been discussed in the section above on 'attendance issues and recommendations'.

The survey has shown that the follow-up ideas agreed have largely been forgotten, become muddled in memory and have certainly not been implemented. Even the host organisation and workshop facilitators were found in an evaluation workshop with them, to have forgotten the commitments they had made. The facilitators also bemoaned the fact that there was no appointed H&H worker to take on follow up. Without a responsible person working in the community, follow up and therefore sustained H&H activity in the community will not occur.

Assistance with the provision of building materials is a difficult issue, and H&H's approach has partly been born out of a realisation that material assistance programmes have failed in the past. But H&H workshops in the field and the possibility of an H&H field worker has the potential to provide a situation in which very tailored material assistance could be given, with specifications laid down by H&H about which aspects of H&H ideas we would be willing to assist with materials, and with the field worker working with the community to negotiate distribution to the neediest homes. With field workers being responsible to H&H (and attached to host organisations, rather than belonging to host organisations), it could be possible to develop structures of monitoring and accountability. This is discussed further below. A second form of support which Grameen Trust is suggesting should be advocated (and is one of the 1996 conference recommendations) is loans. Credit was discussed during the 1997 workshops, and during the evaluation, I have surveyed people's current opinions about credit. The survey also tentatively asked the participants for their opinions about how organisations interested in housing should help people to make their houses more hazard resistant.

The participants' opinions about follow up activities and credit are shown below:

Participant name	What follow up did CD agree to give?	Was this follow up done?	What is your opinion about loans?	What is needed to help people to make their homes more hazard resistant?
Female participants Basonti Roy				I need retraining because I was not at all of the workshops. More workshops for others. Follow up.
Minu Rani Roy (n.b. mother heads household)				Help with the cost of scorching bamboo and painting with tar. If possible, help with the cost of the whole house.

Bilkis Bewa (n.b. widow)	Unavailable	for	interview	
Nelima Rani Roy	Meetings, workshops and book, pens and lunch for these meetings.	No.	Little bit too expensive for poor people. They won't feel good.	More workshops
Janata Rani Roy	Advice	Yes	Bad	Develop workshops for other people.
Kachu Roy	Advice.	Yes	Not good.	We will lead by example.
Kiron Bala Roy (n.b. hand to mouth poverty)	Advice.	Yes.	Not good.	Workshops for others. Need a CD motivator because no-one listens to me.
Onima Roy			Not good.	Training for others. Money so that people are interested.
Onjoli Rani Roy	Unavailable	for	interview	
Shanti Bala Roy	Training.	Yes.	Not good.	All participants should make a H&H house to motivate others.
Jayanti Rani Roy	Training.	No.	Not good because of interest.	Training for others. Follow up to make ideas last.
Minoti Roy	Advice.	Yes.	Loans are good - we hope to get a loan to start a small business.	Training for others.
Sumi Bala Das (n.b. hand to mouth poverty)	Advice and tar.	Yes for ideas.		Training for others. Need another demonstration building because the sewing centre is too far away from Maji para (my note: Maji para is al lot closer to CD than most of the paras in Sundarban!)
Hazera Akhter	Training.	Yes, CD put cross bracing on the pillars of the CD pigeon house.	Not good because lots of interest.	We must use H&H ideas even though it will cost extra. Training for others. Follow up team to help people with ideas when building houses.
Rina Rani Roy (n.b.mother heads household, hand to mouth poverty)				
Bindu Bala Roy (n.b. hand to mouth poverty)	Workshops.	Yes.		Training others. I'm a little person and people don't listen to me. CD should employ a motivator to whom people will listen.
Surjo Rani Roy	.Workshops.	Yes.	Good if money used the right way.	Participants must use the ideas. CD should help us with materials then H&H ideas will be lasting.
Niva Rani Roy	Nothing		Good if used for work.	H&H should help us with CI sheet because thatch doesn't last long. That will rid us of hazard.
Jayanti Bala Roy				

Rasona Rani Roy				
Befula Rani Roy (n.b. hand to mouth poverty)				Make H&H discussion group every 6 months.
Shanti Rani Roy.	Advice	Yes.	I don't like.	Motivator needed to do follow up in paras and make programme continue.
Male participants	Nothing.		Bad.	If people use hipped CI sheet on a wood frame it will be good. Poor people should build sapra (flat) CI sheet roofs.
Koilash Ch. Roy				
Khair Mohon Roy	Advice, tar.	No.	Not good, too many disadvantages.	H&H should help people to build the dhari (outside of plinth) with bricks and cement and give money for that.
Udoy Kumar Roy	Tar and brushes.	No.	Bad.	Workshops elsewhere. Tell poor people to make CI sheet house and to use H&H ideas. H&H to help with money/ materials where possible.
Thushar Kanti Roy	Scorching and painting bamboo.	Yes.	Bad	Need to help participants know the time so that they don't arrive late to workshops. H&H to help poor people to buy CI sheet for sapra roofs.
Ful Mohon Roy				H&H to build houses and to supply materials for people.
Subodh Roy				Repeat workshops.
Foni Bhuson Roy	Tar and brushes	No.	Bad	H&H to help poor with money/ roofing materials then people will start to use H&H ideas.
Harendro Nath Roy (n.b. hand to mouth poverty)	Advice.	No.	Bad, because when it comes to the time of repayment we find many disadvantages and fall victims to selling our land.	H&H to make houses for poor people.
Omarchand Roy	Advice.	No.		I think the mud wall workshop was very good.
Rayzak Ali	Unavailable	for	interview	
Riojuddin	Can't remember.		Bad. Better to live a hard and frugal life.	H&H to provide houses for poor people. This will be good for both the locality and H&H.
Horish Ch. Odhikari	3 monthly meetings, tar, brush and advice.	No.	Very bad. The workshops loan game proved this.	H&H to build demonstration house like the sewing centre in every para for the poorest family. It will encourage people and help ideas spread quickly.
Tohidul Islam	Relief donations/ loans.	No.	Bad.	H&H to donate money/ materials to the poor. CD should use H&H ideas for the building of the cooking house and the pre schools and then people will believe. But CD has not done that so people will not believe.
Chonchol Roy	Advice.	No.		Help the poor with money and roofing materials. Make the dhari of the house with brick.

Mohon Chondro Roy	Advice.	No.	Very bad.	People will not use the ideas because the ideas need extra time and money e.g. for scorching the bamboo, painting with tar, rice husk. Help the poor by building bamboo walled house with cement pillars and brick dhari.
Onunto Roy (n.b. hand to mouth poverty)	Advice.	No.	Loan is good for business because then you can make profit.	H&H to make bamboo and thatch houses for poor people. Do not give them money because people will use it for food etc. Do not give CI sheet because that will be sold.
Rohini Roy (n.b. hand to mouth poverty)	Advice.	No.	Bad-impossible to repay.	Help with some money e.g. CI sheet/other roofing materials.
Toroni Kanto Roy (n.b. hand to mouth poverty)	Can't remember.		Bad for poor people because they cannot repay. All income is used for food.	H&H to give us houses.

The above responses show that people are not well disposed towards credit. This is particularly so with respect to loans for housing, because housing does not generate income which will repay the loan and the interest. It seems that savings and not credit might be the appropriate economic response to housing improvement.

Where participants have said that training and workshops have been provided by CD (which have actually not happened) it seems likely that people are making a retrospective comment about the 1997 workshops. Overall, it can be seen that no significant follow up activities have occurred following the workshops.

3.2 Recommendations for follow up activities required in support of the workshops.

As shown above, the participants have several comments to make about how the community can be helped to improve housing, and it is not surprising to find a wish list within these responses for material help. Some of the participants however have made very considered remarks which are noteworthy. Based on these comments and in consideration of the low level of H&H ideas implementation discussed above, it does seem that well targeted help with provision of materials could stimulate more conviction in and motivation towards the H&H approach. Conversations with members of CD management and the participant interviews do indicate that communities like to see development education programmes 'putting their money where their mouth is'. The same is true of the way that the community looks at the host organisation of the workshops, and one of the participants' remarks together with other discussions in the community has shown that there is great disgruntlement that CD has misused the BHC funds intended for the song team and demonstration houses (members of the song team, one of whom was a workshop participant, being among the upset), and disapproval of CD's choice to rebuild its kitchen/ dining room and pre schools using concrete rather than H&H ideas.

It is clear that the host organisation of the 1997 workshops is not really on board with the H&H approach. This indicates that before an H&H programme is started in a community, much negotiation needs to be

done through participatory exercises to investigate the feelings of the community and community organisation about housing and about the kind of intervention they want and the kind of support from H&H that they will be willing to accept. It is clear from the experience in Sundarban that discussions with the host organisation or its chief executive only, will not produce the agreements or understandings necessary to securely found the H&H programme in the community in such a way that sustained activity will follow. This points to the need for H&H co-ordinating staff to facilitate this negotiation whenever new H&H workshop programmes are to be started.

As suggested by many of the participants, an H&H field worker is needed to facilitate workshop follow up. This person would be involved in:

- developing follow up materials (e.g. posters, distribution of H&H leaflets etc. to schools/ adult literacy groups, savings groups),
- organising publicity (e.g. song team performances, drama 'jatra' performances),
- selecting participants for further workshops (husbands and wives/ those soon to be doing some building),
- facilitating further workshops, assisting former participants (e.g. husband and wife teams) with spreading H&H ideas in their locality,
- and finding out about and assisting people who are carrying out building work (new houses/ maintenance) with H&H ideas.

The field worker should ideally also be involved in the precursor work to the workshops, training workshop facilitators and carrying out awareness raising sessions with the host organisation.

When it comes to providing material support to the community, the field worker, being closely aware of the poverty/housing status of the community members could identify those people who are at a particular time, in need of building materials support. The field worker would administer the procurement and distribution of materials, and would be responsible for full justification and accounting to the H&H co-ordinating body (which would carry out monitoring checks). H&H could define the scope and specifications for the materials provided. Assistance for prescribed H&H approved ideas would be permitted e.g. provision of good quality wire for making joints and for the 'kata' process (controlled cutting and therefore cracking of the mud wall layers followed by grouting), tar and brushes for treatment of bamboo pillars, rice husk for mud wall building, bricks and cement for the building of the 'dhari' (outer part of the house plinth) in flood prone areas, the lending of compaction hammers for the building of plinths etc. Since there seems to be a fine but very significant balance point determining when people will be interested in H&H ideas and when they will prefer to use 'higher tech' or more costly materials (discussed in the first section of this report), I agree with one of the participants that assistance specifications are made so that both it will not be tempting for poor people to sell the materials off, and the materials (or rather quantities thereof) should also not be greatly attractive to the better off people in the community.

Perhaps one of the most important roles of the field worker would be to make sure that all of the learning (effectively action research) coming out of the workshops' discussion exercises, is recorded and circulated for use in other workshops and to organisations involved in housing work e.g. BUET. Similarly, the field worker would be introducing into the community the appropriate technologies developed by BUET and in other H&H workshops elsewhere.

Again this points to the need for an H&H co-ordinator to be the centre point for these flows of information. A large part of the work of an H&H co-ordinating body then, would be to facilitate

the training of the field workers so that they can train others to facilitate workshops and execute the duties just discussed. These field workers would themselves be needed to become well acquainted with building and H&H issues - social, economic and technical - as well as with participatory processes, and monitoring and evaluation procedures (- it being clear that evaluation exercises such as this can produce a good check on the workshops' impact and effectiveness). A co-ordinator would need to organise the provision of this training and set up structures for liaison with the field workers so that maximum benefit is made of the action research opportunity that the workshops etc. provide and so that field workers can account to H&H. (I suggest that ActionAid would provide good consultancy for the provision of training and setting up liaison structures since its very successful REFLECT programme has many characteristics which are similar to the H&H ethos).

I recommend strongly that field workers should be the paid employees of H&H and attached to host organisations rather than employees of the host. This is to ensure that the interests of local politics and patronages are kept as far as possible out of the H&H process and to simplify lines of accountability. It will mean that H&H will probably have to select staff from interviews with candidates (who would most probably be selected by the host organisation) rather than depending upon the organisation to select the field worker. David Sorrill (designer of the Permatent Emergency Shelter) has given an account of a tailored materials distribution programme (the Delta Programme) carried out in 1968 which started with good intentions that members of the local elite should identify beneficiaries, but ended with the familiar predicament that politics and patronages did not serve the interests of the needy poor. In seeking collaboration with the hosts, H&H will have to consider the issue of payment to the hosts for the office expenses that the presence of a field worker will incur, as well as the collaboration time that the host organisation's staff will be contributing to the H&H programme. H&H will also have to consider payment of the workshop facilitators as well as the usual workshop costs.

4. Evaluation of ideas retention following workshops. 4.1 Data.

Work shop number	No. people attending that workshop	H&H idea covered in workshop	No. of people holding idea in upper memory	No. of people holding idea in lower memory	No. of people indicating a good understanding of principle of the idea/ exercise.	No. of people who show a preference for this idea.	Comments.
1	35	Housing assessment: What kinds of houses are there and what makes them strong or weak during hazard.	18	0	N/A	N/A	

2	35	Weak house plus hazard = disaster.	1	0	N/A	N/A	The hazard + vulnerability = disaster paradigm has not been adopted as a motto/ catch phrase.
3	29	Ball test	2	4	1	1	Poorly remembered.
3	29	'kata' process.	6	5	5	8	Poorly remembered.
3	29	Building walls with mud only.	3	18	11	0	
3	29	Building walls with mud and sand.	6	15	6	1	
3	29	Building walls with mud, sand and rice husk.	26	6	22	26	The participants were unable to recall the ratios of the materials which were found to have the best durability results. Some participants also thought that jute, chopped straw, wood shavings, wheat husk and biscotii tree were used/ recommended as additives. One participant thought that if too much husk is used, it will attract insects.
3	29	Mixing the mud mixture with the feet.	3	4	0	0	Poorly remembered.
4	24	Cross bracing.	13	9	0	7	Poor signs of understanding.
4	24	Comer bracing.	9	7	0	5	Poor signs of understanding.
4	24	Scorching bamboo.	26	4	4	8	Popularly remembered, but not widely understood?
4	24	Painting bamboo with tar.	28	3	6	11	Popularly remembered, but not widely understood?
4	24	Clamp system	0	0	0	0	Entirely forgotten.
4	24	2nd horizontal frame in bamboo frame.	0	0	0	0	Entirely forgotten.
4	24	Painting tar on bamboo walls.	3	2	1	1	Poorly remembered, but important for those who do not have mud plastered homes.
4	24	Use of nails for applying bamboo stick e.g. for bracing.	3	3	1	1	Poorly remembered.
4	24	Use of wire on house frame.	6	5	0	3	Poorly understood.
5	24	Building a sapra CI sheet roof.	12	0	N/A	N/A	

5	24	Comer braced upper roof frame.	1	2	0	1	Poorly remembered.
5	24	Alternating stick system.	11	12	4	4	Fairly well remembered but not as well understood as is desirable. This is an important H&H idea.
5	24	Wire ties on roof bamboo.	6	11	2	3	Poorly understood/ appreciated.
5	24	Painting tar on exposed roof bamboo.	1	4	1	2	Poorly remembered.
6	25	Budgeting exercise.	7	0	0	0	Poorly remembered.
6	25	Frequency necessary of house condition inspection.	0	see comment column	N/A/	N/A	6 monthly = 1 participant. Yearly = 15 participants. 2 yearly = 4 participants. It depends = 2 participants. Before hazards = 3 participants. When you get time = 2 participants.
6	25	Inspection and maintenance process.	0	see comment column	N/A	N/A	20 participants said little more than that if repairs are necessary, they should be done.
7	28	Damp proof course used in demo building.	2	25	4	N/A	Well remembered, but also it is very visible.
7	28	Cross bracing used in demo building.	0	15	N/A	N/A	Not as well remembered as is desirable.
7	28	Painting bamboo pillars with tar used in demo building.	0	26	N/A	N/A	Well remembered, as was the earlier exercise with tar.
7	28	Scorching bamboo pillars also.	0	13	N/A	N/A	Not so well remembered, but also not visible as such.
7	28	Using wire for demo building joints.	0	10	N/A	N/A	Not so well remembered.
7	28	Using alternating stick system for demo building roof.	0	23	N/A	N/A	Well remembered.
7	28	Bao chal on demo building.	0	4	N/A	N/A	Poorly remembered, but also not a particular teaching point during the workshops.

7	28	Comer braced upper roof frame used on demo building.	0	5	N/A	N/A	Poorly remembered.
7	28	Nails used to apply bamboo stick used in demo building.	0	3	N/A	N/A	Poorly remembered.
7	28	Comer bracing used in demo building.	0	17	N/A	N/A	Fairly well remembered.
7	28	Clamp system used in demo building.	0	1	N/A	N/A	Poorly remembered.
7	28	Exposed parts of bamboo on demo building roof painted with tar.	0	7	N/A	N/A	Poorly remembered.

4.2 Comments and Recommendations.

Workshop 3.

The ideas which have made the most impact and been the most popular in people's memories are the mud wall building exercise with the most successful wall being made with mud, sand and rice husk. Memory about the proportions of rice husk and sand required with the mud is not good, however, and if people are not confident about the detail of this idea, it might help to explain why people have been slow to use it at home. The ball test and 'kata' process and mixing with the feet which are important ideas for improving mud wall construction are markedly poorly remembered, and therefore it is necessary to get more of the participants involved in practical exercises using these ideas.

Workshop 4.

Scorching bamboo and painting bamboo with tar is very successfully remembered, probably because it is a very visual demonstration activity, with fire being easily imprinted on the mind. By comparison, the comer and cross bracing exercises are less well remembered and need greater explanation during the workshops. The other activities explored in workshop 4 are poorly remembered, and it may be that there was not enough time to get all these ideas across well or too many ideas to be absorbed in one workshop. Although there is no reference in the 1997 workshops report to the use of plastic to line bamboo pillars inserted in the ground, 9 participants reported that this was practised during the workshops and 2 people said it has been used in the building of the sewing centre. It may be that because of lack of follow up, memory about the workshops and H&H ideas has become fuzzy over time and misconceptions are creeping into memory.

Workshops 5 & 7.

The use of the alternating stick system and wire ties in the exercise where a CI sapra (monopitch) roof was built are fairly well remembered, but the other ideas explored at the same time are not. This is reflected in the recall about the ideas used in the building of the sewing centre roof:- It is difficult if not impossible to see the sewing centre roof from on top and therefore to inspect the ideas used. The roof frame technique used in the H&H workshops is quite a complicated idea, and follow up materials such as instructional posters are needed (see Appendix 3).

A good number of people remember several ideas about the demonstration building, but it is telling to note that typically those who were not present during the last workshops where the demonstration building was discussed, could not describe it well or in detail. This suggests that people's attention has to be intentionally drawn to the demonstration building by someone conducting follow-up or motivation work, and that observers should be helped to understand what they are seeing either with guided tours or with poster displays. The song team performances could also help to draw attention to the demonstration building.

Workshop 6.

The survey has indicated that getting across ideas of '*value for money materials*' and '*long term cost savings through improved housing conditions*' is crucial if the H&H ideas are actually to be implemented. Very few people however made reference to the budgeting exercise in which these ideas were discussed. The trainers, during their evaluation workshop, commented that the hands on practical exercises were much easier to facilitate and much more popular among participants. The exercises that involved more talking, were less easy to facilitate they said. They recommended that discussion exercises should be run in much smaller groups in a way that allows people to be more active. The discussion about maintenance routines was also conducted during this workshop, but no one was able to recall this discussion in any detail. Since the survey has emphasised that maintenance is of such crucial importance, it becomes further necessary to look at this workshop and maybe give greater time to its content.

The results show that there is little difference in the level of recall between the male and female participants, and both men and women have enthusiasm for similar H&H ideas.