

Installed Solar Panels: Hopes for Women in the *Char* Areas of Bangladesh

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Abstract

Chars are areas of new land formed through a continuous process of erosion and deposition associated with the major rivers which run through the country. These are home to some of the poorest and most vulnerable people in Bangladesh. In the chars the risk of floods and river erosions is the highest. People here are deprived of almost all the facilities available even in the remotest part of the main land. Several international, national and local- NGOs have started working in the chars with a view to support the dwellers toward development. Oxfam is implementing River Basin Programme (RBP) in 08 districts for the most vulnerable people living in the chars. Installation of solar panel is one among the different undertaken development initiatives. The solar panels are installed in different locations in the chars, such as, market place, flood shelters, village community centres, etc. The present study explores the impact of installed solar panels on the lives of women who are being benefited from these.

Introduction

Poverty is the chronic and complex problem for Bangladesh. In Bangladesh, number of people living below \$1 a day is 36% in year 2000 and number of people living below \$2 a day is 82.8% in 2000 (WB Report 2006¹). The figures definitely indicate the level of poverty in Bangladesh. Researchers found that there is a noticeable pattern of regional variation in poverty. There are also some "localized pockets" of extreme poverty. A large number of people are coming up as "Tomorrows poor" ((Rahman, 2001).

Along with poverty, disaster adds up to the severity of the sufferings of the people. With the exception of volcanic eruption, the country faces all forms of natural disasters that often cause huge damage to lives and property of its citizens. Bangladesh is known to the outer world very much by the flood that occurs every year to different extents. Three major rivers drain into the Bay of Bengal through Bangladesh: the Ganges (known as the Padma in Bangladesh), the Brahmaputra (known as the Jamuna in Bangladesh), and the Meghna.

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¹ WB Report 2006, retrieved on 25.4.2007

<http://www.dfid.gov.uk/pubs/files/bangladesh-factsheet0406.pdf>

Rainfall in neighboring India, Nepal, Bhutan, and China and snowmelt in the Himalayas are the major determinants of the flow of water through Bangladesh into the Bay of Bengal. Due to the ecology of Bangladesh, along with flood, the incidents of river erosion and formation of *chars* are also common. *Chars* are areas of new lands formed through a continuous process of erosion and deposition associated with the major rivers which run through the country. These are home to some of the poorest and most vulnerable people in Bangladesh. In the *chars* the risk of floods and river erosions is highest. According to studies collated by Bagee (1998) and Mamun and Amin (1999), the scale of the disruption caused by river erosion is enormous, with 2,400 kilometres of riverbank experiencing erosion annually, and around 1 million people in approaching 100 upazilas being directly affected. The combination of physical and social characteristics makes the *chars* one of the poorest parts of Bangladesh, with the people being amongst the most vulnerable.

An estimated 5 to 10 million people live in the *chars* and associated flood-prone areas (Ashley, et al., 2000). People here are deprived of almost all the facilities available even in the remotest part of the main land.

Poverty, Disaster and Inequality

In the *char* areas of Bangladesh, along with poverty, the unique ecology leads to severe inequality. Generally, the poor Bangladeshi women live in a society that is male dominated. A woman is dependent on a man her whole life - from birth to death. Bangladeshis define the role of a man as powerful, men have sole responsibility for all decision-making; a woman is never consulted². Now if we consider the state of the women living in the *char* areas, we can indicate the following general characteristics for them: live in extreme poverty, live in severe scarcity of food from birth, get married at an early age, engage in household work, give birth to many children (no less than 4-5), fight to survive and to help the family members survive during floods and river erosion.

The typical story of a woman living in a *char* of Bangladesh will be somewhat like this (composed after interviewing 60 women of 8 different *chars* of four districts of Bangladesh):

Childhood: I was born in a family consisting of 10 members. My father was a poor farmer with no land of his own. I had six sisters and 2 brothers. My parents had to struggle a lot to provide us with two meals a day. The Father and two brothers used to get food and the left was for us. Mother used to starve almost every alternate day. When ever anything disturbing to my father occurred, he

² Peace Corps Volunteer Abbey Brown faces women's issues in Bangladesh, retrieved on 22.9.2006
<http://peacecorpsonline.org/messages/messages/2629/2031205.html>

used to beat us. Frequently we saw him scolding using slang and beating mother. I don't remember a day when I ate full-stomach. I used to take care of the younger siblings and play with other children in the community for sometime. When I grew (age approximately 11) I was no longer allowed to play out side and had to start working with mother at the household.

Adolescence: I learnt to starve, prepared myself for marriage mentally and got married at the age of 12.

Married life: My husband was 18 years older than me. After getting married, we started living with my in-laws. They were also poor. Due to river erosion, my father-in-law lost all his land. My husband used to work as a day labourer. I used to help my mother-in-law for the first four years of my married life. I had miscarriage twice before my first daughter was born. My father-in-law separated us. During the flood my husband used to go to the city to look for job. During my stay with my in-laws I never felt so help less that I felt when he left me every year alone with the children. I had to beg from the neighbours and relatives to save the lives of my children. I did not have even a single set of cloth (includes, saree, blouse and petticoat).

Adulthood: In this way life was passing but I had to face further crises. My husband died leaving 9 children. The eldest was then, 13 years old and the youngest less than 1 year of age.

I got the eldest daughter married with a landless farmer of the same village, sent 3 of my daughters to work as domestic help for others. 3 of my younger children died of diseases. One daughter and one son survived. I used to work for others and my son started working as a shepherd at the age of seven. I got all my daughters married. One of them died of disease and the other during child delivery. At the age of 18 my son got married and I was living with him. One of my daughters returned home being divorced. Now I live this daughter who earns through working for other. Every year we experience flooding and river erosion, we move to survive and take shelter at others and after a few days come back to the newly grown *char*...

This is the story of most of the women living in the *char* areas of Bangladesh. Women here have been subjected to exploitation and negligence. They have been victims of religious prejudices, superstitions, oppressions and various kinds of discriminations. Again, they had to survive and had to try to save the children single handedly during days of disasters.

Development Interventions in the Char Areas

The situation has started changing as several International-national and local NGOs started working in the *chars* with a view to support *char* dwellers toward development. The reality is such that, though the people started living in the *chars* as population grew, the dwellers in the *chars* could gain some attention of the development agencies and government only recently and many are yet to

undergo much essential development activities. Most of the undertaken development initiatives aim to reduce the vulnerability of the poorest communities in a number of most flood affected locations. The Government and the NGOs work to increase community's preparedness to respond to flood emergencies; to improve the livelihood options of the *char* dwellers; to change policy, practices ideas and beliefs to reduce vulnerability of the poorest community. Again, some of the NGOs work with special focuses on women and children, some on the needs of the handicap children and so on.

Oxfam-GB

Oxfam GB (referred to here simply as Oxfam) is an independent British development and emergency relief organisation. It is affiliated to Oxfam International, and works in partnership with national and international NGOs to overcome poverty in more than 80 countries. Oxfam adopted a Sustainable Livelihood (SL) approach in the early 1990s, and has applied it in both development and emergency relief contexts (Hussein, 2002). Chambers and Conway's (1992) definition of a sustainable livelihood formed the basis for the definition adopted by Oxfam in this regard. The definition is "*A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from shocks, maintain itself over time, and provide the same or better opportunities for all, now and in the future.*"

Oxfam is implementing River Basin Programme (RBP) in 08 districts to reduce vulnerability of the people (living in the river-basins) to flood. RBP also works to ensure that small producers and farmers are able to improve their livelihoods in *char* areas, through better disaster management, and access to markets.

Oxfam's work

As described in the programme overview of Oxfam Bangladesh, River Basin Programme (RBP) (web site referenced), the (RBP) intends to demonstrate a robust intervention model that reduces the vulnerability of people, particularly women, living in *char* and *haor* areas. The focus areas are³:

- Minimising the effects of flooding by constructing flood shelters, cluster villages and raised homesteads and increasing awareness on issues related to public health.
- Strengthening livelihoods by providing trainings for developing skills, financial support, and linkages with markets.

³ Oxfam Bangladesh: River Basin Programme, retrieved on 29.5.07
http://www.oxfam.org.uk/what_we_do/where_we_work/bangladesh/programme_riverbasin.htm

- Helping people being prepared by training them to cope and live with floods, providing emergency stock piling and coordination, and undertaking advocacy for disaster preparedness with governments and other actors.

Achieving the goals and objectives of the River Basin Programme⁴

- The RBP will be implemented with the active participation of key actors, programme participants, especially women.
- Working on a one-programme approach to integrate development, emergency assistance, and advocacy.
- Enhancing and strengthening the abilities of *char* and *haor* dwellers (*Haor* can be described as an island of marshy lands).
- Disseminating information about the progress of the RBP to donors, and the government, to generate interest in investing in *char* and *haor* areas.
- Building partnerships with NGOs and alliances .

Oxfam's River Basin Programme, covering 40,000 households in 350 villages, was launched in Bangladesh in 1999 and prepares people to live with floods. It ensures that their lives and their ability to earn a living are disrupted as little as possible. Oxfam works with communities, local partners, a network of agencies, and with the Government of Bangladesh to reduce homelessness, casualties, and the loss of possessions and livelihoods of poor people during the floods. Oxfam supports the community to build self-help organisations, raise homes, flood shelters, accumulate savings, install sanitary latrines and tube-wells, and use rescue boats⁵.

In 1999, local NGOs in different flood prone areas got the financial support Under the RBP. The development associates of these NGOs went to the vulnerable people and through discussion with both males and females helped formulation of women's self help groups. The group members agreed to deposit a weekly or monthly savings during the weekly or monthly meetings. The amount they deposited varied from Taka 1 to Taka 25. They were given training on cattle and poultry rearing, vegetables cultivation, tree planting, nursery development, cow fattening, women's right, legal rights, family law, gender relations, leadership and training for becoming para vet, birth attendant, profitable farmer, etc. the micro-credit facility helped them in realizing the trainings to actual development. RBP supported the beneficiaries with necessary equipments and other different kinds of materials to build their confidence. As Oxfam started supporting sustainable livelihood and other development initiatives, the situation of the *char* dwellers improved.

⁴ *ibid.*

⁵ *ibid.*

In the *chars* of Bangladesh there was no electrification ever. The kerosene lamps are the only source of light for the dwellers for a very brief period after sunset. Most of them are so poor that cannot even bear the cost of using the kerosene lamps. For them having some food instead of light is much more important for survival. But, in course of time, the women of the self help groups, in their weekly meetings expressed the importance of having electric light and television in specific places like, market, flood shelter and village community centre. Analysing the proposal, Oxfam, through the RBP, installed solar home systems (More than 10 sets, each set containing 3 units) in different locations in the *char* areas, such as, market place, flood shelters, village community centres, etc. Thus for the first time the most deprived and poorest community of the *chars* of Bangladesh could experience the meaning of having electric lights and television.

The impact of installed solar panels on the lives of women getting benefits from these is multidimensional.

Solar panel in the market place

As the Oxfam funded local NGOs had been working for the last 7 years, the villagers realized the significant contribution of the NGO in socioeconomic development. Some of them felt the necessity of improving the market. They discussed the issue among themselves and through the members of the women's self-help group insisted the NGO development associates help them in this matter. With the NGO's assistance, the market place was raised.

The recent significant development in the market is electricity generated by solar panels. The solar panels were installed on the roof of the *Union Parishad* (the lowest tier of administrative unit in Bangladesh) building beside the market.

The villagers are extremely happy to get the facility of four lights in their market place. They do not need to use lamps in the shops anymore that help them save that money. They feel safe and secure in a brightly lit market. There is no tension of power failure. The stored food and other different kind of materials in the *union parishad* building are completely safe in the lighted market place. The night guards are also conveniently doing their job.

The raised market place is also used as a disaster-shelter during the disasters. The refugees with their cattle and other possessions will feel much more secure now. Both the market committee and the disaster committee work for all the disaster affected people and the task of ensuring their security will be very convenient for the members with lights in the market place.

The sellers mentioned about the usefulness of having the television in the market place. Now they know the market price of their commodities. They don't sell their goods at a low rate any more to wholesale buyers. Because of the convenience of communication and lights the scenario has completely changed. The market has increased in size, people from many places are coming to buy

and sell in this market. When shopping they feel comfortable because the probability of any unforeseen event is extremely low.

The market has become a place of recreation for women sellers and buyers and for the children because it has a lighted women's corner.

In this poor village located in a *char* of Gaibandha District, there exists a close social relationship among the villagers and they understand each others problems and sympathize with each other. The males are not against women in the poor village setting. But the question is how the women of this village got benefited for having the solar panels installed in the market place.

Through the development initiatives, motivated by the local NGO, the women engaged in different income generating activities. They were rearing poultries, cattle and were growing vegetables. But for selling the poultry, cattle or the vegetables, the women had to depend on the males. They had no control over their own money.

Now, in the family the women are important as the development associates consider their requests and thus the market place was raised. The women feel their decision making role is introduced. Through having the women's corner established in the raised and electricity lighted market place, the women can now come to the market for selling their produced vegetables, reared cattle and poultry, milk, eggs, etc. Now they have scope to buy their own necessity that are of their own choice and have all the control over their money. Because of the activities possible for women now, the community's perception of women's capabilities has changed, the rigidly defined gender division of labour is broken, and their income-earning potential has expanded.

In the market place the women get chance to have interaction with people coming from many different nearby villages. Their mobility has increased. They feel they are no longer socially excluded. They are aware about their rights and through viewing television programmes, aware about social issues like, health, education, and about social diseases like, dowry, polygamy, violence against women, early marriage, illiteracy, unhealthy living, etc. They send their children to school. Ensure healthy living. They have access to information and their knowledge base is stronger than before.

The market increased motivation of the women to work for themselves, their families and for their society. There is a market committee and both males and females are members of the committee. "*Haushi haushi mohilala aisho*" meaning "the women come with great pleasure" mentioned one market committee member. The statement indicates the psychological impact of the installed solar panels at the market place.

Solar Panel in the Community Centre

In a village of Kurigram District there was a village that was known to people as dirty village. People of this village had been somehow living their lives. Child and mother mortality rate was very high in the village. The village was named *khashpara* and the name indicated that it is a very uniquely backward village. People from other villages were not willing to go to that village for getting married. Violence against women at family and societal level was high. There was no school and the village was considered a trash by all. A local NGO took the initiative to improve the situation of the dwellers of the village.

It was difficult to form women's self help groups there. But as the groups were formed, the situation started changing. The women took the initiative to clean up the village and the environment was comparatively pollution free. The women proposed to change the name of the village and it was named *Adorsho gram* (Ideal village).

A community centre and a non-formal primary (NFP) school was built. In the community centre solar home systems are installed. There is a television in the community centre. The women meet at the community centre every week for their group meeting. Male, female and children of the village watch television programmes at the community centre. Complaints relevant to violence against women are settled at the community centre. As the male work during day time all these are done at night in the lighted community centre. Women come to the community centre to sew quilts, make hand fans, and thus can raise income. Children come to study at night. Because of the development of the village in terms of cleanliness, education, awareness, the village is now considered to be ideal by all. Villagers of the nearby villages try to get their sons and daughters married in this village. All the wedding are arranged at the community centre. At night it is possible to discuss about the preparation and get help from all. Male of the village respect all the women and their decisions. Women of *Adorsho gram* feel proud for their achievement.

Solar Panel at the Flood Shelter

In the *Char Gandar Alga*, the village at Kurigram District, the flood shelter was established in 1999 with the support of an Oxfam funded local NGO and effort of the villagers. Approximately 170 families, composed of 4-5 members, can take shelter during disaster in the flood shelter. There are sheds made using poly papers for people and cattle. One office room is used as a child delivery room during disaster. The other room is used as the schoolroom throughout the year, while during disaster the room is used as the store of the properties of the victims. There is also 1 kitchen and 4 toilets. A set of solar home system with three units is installed here.

The Flood Shelter Committee was formed in 2001 with a total of 9 members – 5 male and 4 female members. The members usually meet once a month. But in

emergency situation, they meet as frequently as needed. The members through their experience of years, felt the necessity of electric light at the shelter.

During rainy season due to heavy rain fall heavy flow of water come from the hills of Asham of India. The Village Disaster Committee (VDC) brings the victims to the shelter. Both the VDC and the Flood Shelter Committee jointly work during disasters. Flood Shelter Committee members also work to ensure spread of information regarding the disaster, rescue of victims, take care of the shelter through out the year, ensure convenient placements of victims and their properties, note-down information of the properties of the victims in the register book, ensure food for the victims, security in the shelter, health facilities for the ill in the shelter, maintain cleanliness in the shelter and other essential necessities. They instruct about where to put and gather what. They select the places for cattle and poultry, houses, other possessions and places for staying. Every individual member takes specific responsibility of each of these duties. Having the electric light at the flood shelter the women members can work equally efficiently with the male members.

The security is ensured jointly by the Flood Shelter Committee, VDC and the NGO members and the young of the village. Security sub-committee is formed during disaster realizing the need. Along with the night guards the members of the committee stay and guard the shelter every night to ensure security. The women members can also serve to ensure security.

During their stay in the flood shelter, when victims come who don't have any food or money, the Flood Shelter Committee arranges food for them. The committee members talk to the victims and try to find out the possible sources of food and money. These discussions are done at night and in the lighted shelter the women members talk to the women victims to meet their essential needs. Though it is very difficult to manage the situation and the victims and their property during the time of disaster, the committee members feel proud to get the chance of serving the disaster victims. The women members feel that the solar generated electricity has widened their scope of working for vulnerable people and thus they have become examples of successful women in the village. They try to help the pregnant mothers in the shelter and ensure treatment facilities for the ill. The arrangement is temporary in the shelter, but the self dependent women are the source of information and good and successful example for the victims both male and female.

Women who live nearby engage in different income generating production activities at the lighted flood shelter at night. They motivate the male during "*monga*" (*monga* is a famine like situation, which appears specially in September through November or in Bangla months Aswin and Kartic) period in Bangladesh, when food stocks run out and job opportunities dry up, to engage in making hand fans, bamboo made handicrafts, etc. and to earn for living. Male and female work and children study at the shelter even at night.

Conclusion

Solar energy is sustainable and environmentally friendly. The installation of solar home systems in the remote *chars* has changed the lives of women toward positive to a great extent. But the benefit is still limited to an extremely small number of women compared to the total women population in the *chars* of Bangladesh. The benefit is for all, but the effect is enormous on women who benefit from them. The small scale examples can be expanded to ensure the benefit of the poorest people. The availability of reasonably priced and sustainable energy to all people is important for the achievement of the Millennium Development Goals (MGDs⁶), and its contributions can help to meet the targets in various ways (Chowdhury, 2006). The government has taken the first step this year. In the proposed budget of Bangladesh for fiscal 2006-07, import of machinery and spares for solar energy has been exempted from all duties and taxes. Making the proposal, Finance Minister M Saifur Rahman in his budget speech in parliament said solar energy is environment friendly and this can be conveniently used for generation and transmission of power to the rural areas.

The minister said solar energy has become very popular with the people, in the rural areas in particular. To develop the renewable energy in rural areas a fund with Tk 100 crore has been created. The local NGOs through replicating the successful examples can expand the use of solar generated electricity for the development of the poor deprived people in an environmentally friendly manner. The media can play a vital role through disseminating the successful examples and necessary information to motivate people to go for solar energy and thus ensuring expansion of solar energy for the development of the poor.

⁶ The Millennium Development Goals (MDGs) are eight goals to be achieved by 2015 that respond to the world's main development challenges. The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 nations and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000. The eight MDGs break down into 21 quantifiable targets that are measured by 60 indicators.

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality
- Goal 5: Improve maternal health
- Goal 6: Combat HIV/AIDS, malaria and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a Global Partnership for Development

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