

research highlights

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Securing Access to Water-bodies

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Can the rice-fish production system promoted through CARE's farmer field schools provide a starting point for the introduction of more equitable systems of water body management? Who will gain and who will lose from such initiatives and how might they best be pursued?

The poor people CARE would like to work with lack sufficient access to the land and water resources required to take full advantage of the technologies promoted through the organisation's Farmer Field Schools (FFS). Starting in 2000, attempts have been made to use an initial presence established in an area through FFS to develop new ways of managing local water bodies, where the introduction of more productive methods can be combined with an enhanced role for poorer households. More than 100 such initiatives have now begun, spread across four districts of north-west Bangladesh.

The water bodies in question fall into two categories: the substantial areas of seasonally inundated land, known as *bilani zamin*, where private cultivation has traditionally co-existed with open access fishing around and during the monsoon; and the smaller permanent *khas* (government owned) ponds that are supposed to be allocated for the exclusive use of the poor.

This paper, which forms part of a wider series of investigations (see *Boxes 1 and 3*), recounts what has happened in the case of one *bilani zamin* and one *khas* pond, before going on to identify more general issues that will need to be addressed if the initiative is to be developed further.

Findings are based mainly on field investigations using a range of PRA and other methods, and approximately five days were devoted to each case. Data was collected and analysed by Anowarul Haq, Mukti Majumder, Bipul Chandra Dev, Murad Bin Aziz and Apurba Deb Roy from CARE's Social Development Unit, assisted

by other programme staff and representatives from partner organisations. In each instance, an attempt was made to understand relevant aspects of the local context; to re-construct the nature of the intervention; to identify impacts for different groups of people; to assess the sustainability of any positive impacts arising; and to explore how any negative impacts might be addressed.

Box 1: The series

CARE Bangladesh is transforming itself into a rights-based organisation that will identify and address the underlying causes of poverty. This is one of several studies designed to aid the transition by clarifying the nature of the context in which the organisation works and showing how this affects the activities undertaken. Further details of the series appear in Box 3.

The *Bilani Zamin*

The earlier regime

In 2001, CARE established male and female FFS in a poor indigenous Santal community in Thakurgaon. Initially, members were encouraged to take up the rice-fish and vegetable cultivation methods the organisation had been promoting over the previous decade, but these offered little scope to most of the households who had only limited land resources. As a part of the Rights-Based Approach, which had just been introduced, members were then asked if there was anything else that they would like to pursue, and it was out of

these exchanges that the idea of securing a stake in the water body adjoining their community was first put forward.

The body in question was about 200 acres in area. Water flowed in seasonally from the north and exited from the south. It contained shallower areas that were inundated for only 1-2 months each year, lower lying sections where water remained for 4-5 months, and a small number of deeper depressions (*ghoto*).

The land was all privately owned, but prior to the intervention anybody was entitled to fish during the season. About 70 small scale and primarily subsistence fishers were taking advantage of this system, with a further seven or eight operating on a more or less full time and commercial basis, but the overall size of their catch could not be determined with any precision.

At the end of the season, as the waters receded, the remaining fish would retreat to the *ghoto* and would then be harvested under an arrangement between the individual owners and some of the professional fishers. The size of this final catch was relatively easy to re-construct.

The years preceding the intervention had seen an intensification of agricultural activity in the *bilani zamin* area. By the time CARE arrived, almost all of the land had been brought under HYV cultivation during the *boro* season, with *b.amon* or *t.amon* being grown in the monsoon. In the process, the relative importance of crop production *vis-à-vis* fishing had grown, and the gross value of rice output had come to greatly exceed the value of the fish that could be caught. Together with various developments in the local infrastructure, this trend had contributed to the elimination of certain species of fish and to a marked reduction in the overall catch.

Interested parties

A large number of local communities had a continuing interest in the water body. The land was mainly owned by nearby communities. Residents of Hazi *para* controlled about 50%, with Hindu *para* and Vatia *para* each accounting for about 15%, and Wahid Ali *para* for a further 10%. The local picture was completed by the three

adjoining *para* of Jalpaitala, Mohun and Molani, where the Santals lived.

The *para* differed significantly in size, power and wealth. With the exception of the cluster of Santal communities and Hindu *para*, all were at least predominantly Muslim in composition. All of the Muslim communities were long established, apart from Vatia whose residents had only come to the area early in the Pakistan period.

Some members of all classes and religious-cum-ethnic groups were involved in fishing prior to the intervention. Those not taking part were slightly more likely to come from the poorest landless category, but the relative significance of fishing to the nutrition and income of the landless that did participate would have been greater than for other groups.

A small number of individuals, nearly all of whom controlled relatively large areas of land, dominated the communities surrounding the water body. The bonds and conflicts defining relations between these influential people provide an important backdrop to the events surrounding the new management system that CARE helped to initiate, and are ultimately likely to have a critical bearing upon its sustainability.

The Intervention

The initial plan worked out between CARE staff and the FFS members for the management of the water body had a number of elements. First, the water body would be re-stocked to increase fish production, with fences being constructed to prevent fish from leaving. A co-operative would be formed with members buying equal shares to cover the expenses arising. All fishing during the period of inundation would be banned so that fish could mature. The entire catch would then be taken from the *ghotos* at the end of the season and divided equally between the shareholders. All other parties would be excluded.

Once the broad framework had been agreed, FFS school members began to canvas leading individuals from the surrounding *para*. CARE staff provided back-up and helped to win the support of this group by offering them advice about reducing the use of chemical inputs with

their crops and managing their domestic ponds more effectively. With further assistance from CARE, these leaders then helped to convince other major land owners. With their agreement secured, a co-op was finally launched in March 2002. A total of 132 people, drawn from all of the main *para* around the water body, decided to join, and various committees were duly elected. It was agreed that each participant should contribute 200 taka¹, but a handful of the poorest Santal households were exempted in return for an undertaking to provide guarding and other services.

Work began with repairs and improvements in the structure of the water body, the installation of fences and the construction of guard sheds. Next, leases were negotiated with the *ghoto* owners and contact was initiated with fish seed suppliers. Two exotic species – silver and common carp – together with four indigenous species that had largely or entirely disappeared from the *bilani zamin*, were then introduced. A little later a CARE Technical Officer was also able to arrange for additional fish seed to be donated to the co-op under the Department of Fisheries stocking programme.

As noted earlier, under the co-operative agreement, the fish were then supposed to be left to mature until the waters receded, but the people of Vatia *para*, whose community immediately adjoined the more deeply inundated and productive area of the water body, refused to accept the new restrictions. Matters came to a head when a group from the *para*, most of whom were not co-op members, used illegal nets to catch a substantial quantity of fish. This came to the attention of co-operative members in other *para*, who called a *shalish* that determined that the nets of all of those involved should be destroyed.

Other parties from inside the co-op also broke the rules, but were able, by virtue of their more powerful positions or connections, to escape punishment. The transgressors included committee members and their immediate kin, and the *ghoto* owners themselves, although to some degree the fish appropriated by

these parties might be regarded as an informal return for unpaid services rendered to the co-operative.

In the absence of a well-organised and reliable system of record keeping, the extent of these informal extractions and their relative legitimacy could not, however, be determined. The best estimate that can be produced on the basis of the poor data available is that, in all, fish worth 164,000 taka had been caught.

This represented an increase of 98,000 taka over the estimated total previous catch, and was equivalent to some 3.7% of the gross value of crops produced from the same land. 62% of this found its way into co-op funds, with the remainder dividing between payments to *ghoto* owners (13.5%) and various more or less legitimate diversions into private pockets (22%). When costs of some 55,000 taka had been deducted, this left a profit of 308 taka per share after guards had been paid – a figure a little lower than the value of the estimated average household catch in the pre-co-op period.

56% of the recorded catch came from the introduced seed, by far the greater part of which was contributed by three species. When output figures are compared with seed input, it is clear that all other species performed poorly.

Impact

When CARE's intervention as a whole is considered, the most obvious winners are 15 large land owners and 10 relatively prosperous individual pond owners whose returns increased as a result of advice received from staff in the course of the initial consultative process. The *ghoto* owners, most of whom are at least moderately wealthy, are also likely to be substantially better off.

Non-elite co-op members, who account for the majority of the 132 households who have joined, will mainly have benefited on a more modest scale, although the small minority who fished relatively extensively before may actually be at least a little worse off in purely material terms. Among the poorer and less influential, the Santals have gained the most.

¹ 1 taka = \$0.02

Box 2: How other *bilani zamin* differ

The main case that has been described illustrates many of the key issues that are likely to arise when working with any *bilani zamin*, but individual water bodies can differ in a variety of ways. A second case, which was examined more quickly, indicates some of the variations that can arise.

The second water body was only 30 acres in size. As with the larger water body, the hydrology and associated fish movements had been influenced by road construction and other infrastructural developments, and a similar pattern of changes in species composition and the pre-co-op catch had occurred. But this water body was much deeper, with some sections being inundated for almost the entire year. Cultivation, as a result, was much less intensive and the relative importance of fishing *vis-à-vis* agriculture was correspondingly greater.

Attempts at co-operative management here began a year before CARE's involvement, with a rather different set of institutional arrangements, which reflected the longer period of inundation. 45 households participated, drawn from two major local factions, but in this instance, relations were more polarised. There were no leading actors who were able to mediate effectively when disputes arose, and largely for this reason, the initial experiment was not very successful.

As in the previous case, CARE's intervention again came via its prior involvement in a FFS. One of the members owned a significant area under the water body, and had joined the earlier co-op, and it was largely at his instigation that the CARE staff agreed to get involved.

A reformed co-op was duly established which included a few FFS members, all of whom owned land under the *bilani zamin*, and also included a handful of significant local actors who owned none of the land in question themselves.

The process of setting up the new institutional arrangements was completed much more quickly than in our other case, and rather than all members receiving equal shares, certain households were allowed to purchase larger numbers. Infrastructure was again improved and attempts again made to procure fish seed. These, however, broke down, and a leading individual then agreed to secure all the necessary inputs himself, in return for which he received 80 shares. Further difficulties arose when individuals from one faction, some of whom had not joined the co-operative, continued to fish. But ultimately, the outcome was quite successful, with each 100 taka invested yielding a 340 taka return.

The co-op duly reformed at the start of the second year, but continuing disagreements now made the earlier arrangement impossible to sustain. It was therefore decided to lease the entire area out to an individual from another community. The returns achieved under this new arrangement were again relatively good. In the most recent season, nine former members, all of whom are drawn from the large, medium and small farmer classes, but only one of whom belonged to the FFS, have decided to re-activate the co-op.

Whilst precise details are not available, it would appear that this group of nine, together with the other *bilani zamin* land owners, are the main winners. The most any poor person will have gained, on the other hand, is some employment as a guard. Since a complete ban in fishing during the monsoon has now been imposed, the main losers are again clearly those who fished before. Numbers could not be obtained, but the group would have included some of the poorest people. The initiative may prove to be sustainable in its present form, but those who CARE seeks to target are no better off, and some may actually have lost.

All present and future users of the *bilani zamin* will benefit from the increased diversity of fish species, the conservation of naturally occurring fish species, the

reduction in cultivation costs, and the improvement in soil fertility and yields arising as a consequence of the new technology that has been introduced. In

addition, poor people are now more able to participate in community fora, and animosity between previously competing factions may have been reduced somewhat. The main losers are former fishers who have not joined the co-operative, especially those who operated on a commercial scale.

The intervention has also had a number of positive implications for CARE staff. Front line workers have been able to gain experience in facilitation and negotiation on a much wider stage. Their activities have made them much better known in the area and their profile has been further strengthened by the media exposure that has been attracted. Other project staff, who have been more marginally involved, have built a better understanding of local social and political relationships, and formed closer relations with the local administration. The demand for CARE services as a whole in the area has grown. Set against all of this is the additional burden on field staff, with the new responsibilities that they have taken on not being compensated by a reduction in other work.

In conclusion, it is important to consider how sustainable outcomes might be. At this relatively early stage it is only possible to speculate, but a number of important indications are already available. One advance that seems very likely to be sustained is the shift to lower input, lower cost and higher output agriculture in the *bilani zamin* area arising from the wider dissemination of ideas previously only promoted in the FFS. But as far as the co-op itself is concerned, the financial returns from fishing that have been achieved are fairly modest, both in relation to the investments of time and money expended, and to the use of the same land for paddy cultivation.

Unless productivity can be substantially increased, it might in future be difficult for people to find the motivation to keep a quite complicated institution running when CARE withdraws, and under circumstances where different factions with a previous history of conflict are present. It also uncertain whether the foothold low status Santals have gained in the management of the *bilani zamin* could be maintained in the absence of continuing support from CARE staff.

The Khas Pond

The second case study concerns a *khas* pond in Dinajpur, which is about five acres in area. It lies close to predominantly Hindu communities in a Union with a sizeable Muslim presence.

Earlier developments

There has been a pond on the present site since colonial times. Originally, this was a simple, naturally occurring depression that was replenished each year by the rising floodwater. Indigenous fish entered with the floods, and could then be caught by anybody under an open access regime.

But in 1971, the Fisheries Department assumed control of all *khas* water bodies, and the pond was then leased out to individuals under a system administered by a committee with representatives from the Union Parishad and the Upazilla. This arrangement continued up until 1981, when a local teacher held the lease.

During 1981, direct responsibility for *khas* ponds passed on to the Bangladesh Rural Development Board (BRDB), and under the new regime, embankments were constructed for the first time. These kept out the floodwaters whilst retaining a substantial volume of water throughout the year, and the capture of naturally occurring indigenous species now gave way to managed aquaculture, with introduced fish seed.

At the same time, the practice of leasing to individuals was abandoned in favour of a co-operative system. In response, the teacher organised a co-op - the Daksin Nayabad Krishok Samobay Group (DNKSS) – which was mainly made up of moderately prosperous households from his own lineage and surrounding *para*. This tendered successfully for the lease, which it then retained for nearly two decades.

In 1995, overall administrative control of *khas* ponds switched again, this time to the Youth Development Department (YDD), with direct decisions about the awarding of leases now being vested in an Upazilla-level Committee. YDD had been created for the benefit of young people from poor households, and DNKSS clearly did not meet these criteria. It was

therefore only with considerable difficulty, and after paying a substantial bribe, that the teacher and his associates were able to renew the lease when it next expired. This weakened the financial position of the *groupgroup*, setting it on a downward trajectory it could never subsequently reverse.

While this was going on, in 1998 another co-operative was established nearby, under YDD auspices. This took the name of Nayabad Bekar Jubo Unnayan Group (NBJUS) and had 42 members drawn from several *para*. Most came from the poorer households targeted by YDD, but a nucleus of wealthier and more powerful actors were also recruited.

Initially, the new *group* focussed on training, but as this drew to a close, possible activities started to be reviewed. Members were aware that *khas* resources were supposed to be administered on behalf of the poor and decided to tender for the pond. Drawing on a YDD loan and additional resources raised by members themselves, they were able to outbid the financially weakened DNKSS and eventually secured the lease for 155,000 taka. The teacher was furious and attempted to sabotage operations by pumping out water from the pond, taking the fish and uprooting banana plants growing on the banks. Production was brought to a halt. Negotiations then began in an attempt to resolve the matter.

CARE's intervention and what has happened since

It was at this point that CARE became involved. An FFS had already been established in the neighbourhood, and had recruited members from a number of different *para*. These included the new *group* chair and the Union Parishad member for the ward.

These individuals had earlier approached CARE staff for technical advice about managing the pond, but as the crisis broke, they then sought their assistance as mediators. The team agreed and duly embarked on what was to prove a lengthy process.

First, a meeting was convened with the *group* members to identify leading local actors and to formulate a strategy. A

series of discussions were then conducted with residents to elicit their views on what might be done. Consultations with a number of key actors from the local administration followed, after which it was agreed to convene a community meeting. Discussions were also held with the chairman and other Union Parishad members. All of this was eventually to pave the way for a meeting with the teacher at which he was left with little alternative but to concede control and agree to make no further attempts to disrupt operations. With the dispute finally resolved, NBJUS was duly able to assume proper control of the pond around the end of 2001.

Available accounts are not good enough to form a clear picture of what has been achieved thus far, but one estimate suggests a gross income of 70,000 taka in the first full year of production, whilst another indicates a net operating profit of 20,000 taka for 2003.

These are modest figures that might well be exceeded in subsequent years if the co-op is able to continue and to develop stronger technical and managerial capacity. Certainly, the progress achieved in the first two years of uninterrupted operations indicates both a high degree of commitment amongst the membership and enduring support in the wider community, which together seemed to provide a promising foundation upon which the co-op might in future build.

But it has recently encountered a serious setback, from which it may not be able to recover. This has arisen through the convergence of two initially unrelated series of events: the passing of control to the newly formed Barind authority, which has thus far been unwilling to award the *group* a new lease; and a union council election at which the previous chairman, with whom the *group* was allied, was defeated.

Impact

These developments make it impossible to arrive at a definitive assessment of who has gained and who has lost from the intervention. All that can be done is to take stock of who would have been in these positions if the *group* had been able to continue operating the pond.

From this perspective, there would appear to be a roughly equal number of winners and losers. Those who have gained most appear to come from the better off part of the membership, but are still generally poorer than those who previously controlled the pond. But what the winners have gained in income does not seem likely to be as much, in absolute terms, as the losers have lost.

The case raises a number of important questions for CARE. Is the net benefit to poorer households sufficient to justify the resources that have been expended? Even if this is a genuinely poor-focussed intervention, is it reasonable to encourage households from this group to enter into relatively large financial commitments in an uncertain environment that they do not control?

And as with the *bilani zamin*, the case again demonstrates that local politics are complex, fluid and hence difficult for the outsider to understand. Under such circumstances, is there not a danger that CARE itself might become the unwitting tool of groups whose interests differ from those that it seeks to promote? Even if this problem can be overcome, can progress be achieved without the expenditure of disproportionate amounts of time and without an unacceptable diversion of resources and energy from other activities that the organisation is perhaps better equipped to pursue?

Raising these questions does not imply that the answers will necessarily be negative. It does, however, suggest that it would be wise to embark on a process of very careful consideration of a small number of cases before attempting to move forward on a wider front. This is reflected in the more general recommendations for immediate and longer term consideration that follow.

Moving Forward

Implications for present initiatives

The present number of *bilani zamin* and *khas* pond interventions appears far too large given the complexity of the issues that have been outlined, the possibility of negative implications for some poor people, and existing staff capacity. This suggests that many should be at least

temporarily suspended, although careful consideration would need to be given to how this is to be accomplished in order to minimise negative consequences for participants, damage to the morale of the individual staff members involved, and wider loss of confidence in CARE as an organisation. Everything else being equal, it is the more complex, larger scale interventions that should be set aside and the relatively simpler, smaller interventions that should be retained.

Providing ongoing support to a small number of pilot initiatives

In those cases where support will continue several matters will require attention.

Co-operative accounts are currently either not retained at all or kept in a scattered and disorganised fashion. Professional help should be sought in designing proper accounting systems. Computer access and training should be provided so these can be administered effectively. Simpler non-electronic systems should also be designed and introduced.

Harvest records should be obtained and analysed in consultation with committee members, *ghoto* owners, the professional fishermen holding contracts with the co-operative and CARE staff. Particular attention should be given to presenting data in ways that are comprehensible to illiterate members and those who only have very basic literacy skills. In particular, catch composition should be analysed in order to determine the effectiveness of present stocking recommendations, and these should then be modified accordingly.

There is currently no properly agreed system governing who is entitled to catch and enjoy the use of fish resources or how office holders are to be compensated for their time inputs. Negotiations should be initiated to design a simplified and fair system that is understood, agreed and respected by all of those holding an interest in the water bodies.

In the *bilani zamin*, the feasibility of organising landless men and women to lease one or more *ghoto*, where fish seed production could be carried out, should be explored, and any training and other technical support needs identified.

In general, collaborative arrangements should be forged with government and other non-government agencies, including current partner organisations, who are more experienced in the various issues to be addressed than CARE. Attempts should be made to strengthen water body initiatives by linking them with others currently being promoted by CARE, especially those relating to input procurement, accessing extension advice, free up the time that will be required to implement the other changes recommended.

Increasing women's participation

CARE's current support for *bilani zamin* and *khas* ponds may have considerable implications for women's work and time use, but women currently only have very marginal roles in the administration of these resources. If, as CARE intends, future initiatives are to "put women and girls first", one of three things should follow. Either water body work should be discontinued as not relevant to the overall guiding principle, or it should be allowed to continue as an "outlier" for which an exception can be made, or it should be adapted to explore the possibility of women performing more prominent roles – perhaps as keepers and multipliers of fish, vegetable and rice seed or as more general bare-foot extensionists.

Whilst the last of these options may have its attractions, it should be recognised that is also by far the most difficult option to implement effectively. Doing it well would take time and scarce resources that could not then be deployed elsewhere. Other staff responsibilities would have to be reduced to allow for this.

Future work in new locations

If, in the longer term, CARE decided to start further water body initiatives in new locations, a number of steps should first be taken.

Any intervention should be preceded by a careful investigation of relevant aspects of the local eco-system, of the way in which a water resource is currently managed, and of the wider configuration of social and political relationships within which that management system is embedded.

Whilst broad guidelines can be laid down in advance, the approach adopted in any particular instance must then be carefully tailored to the specific nature of the location and proposed participants. Those taking part must be actively engaged in determining broad objectives and planning how these will be accomplished, as well as in the actual implementation of activities.

The need for high quality and detailed prior analysis would inevitably restrict the scale on which a programme should operate and suggests that even when success is attained at pilot level, thoughts of going rapidly to scale should not be entertained.

With the possible exception of interventions conducted on a very small scale, approaches entailing a fundamental re-configuration of existing social relationships or a serious challenge to established power structures will normally fail and should generally be avoided.

The complexity of the issues arising, and the high degree of year on year variability in conditions, means that a support agency must normally be prepared to commit itself for a period of 3-5 years, with the necessary length of engagement increasing with the scale of the proposed project.

Box 3. The series

1. Institutions and Rights
2. Social Capital in a Rural Community
3. Securing Access to Water Bodies
4. Land Policy and Administration
5. The Changing Role of Women
6. How Farmers Learn
7. Gender Roles and Relations

Full versions of these papers will be posted at <http://www.carebd.org/publication.html>.

Comments are welcome and should be sent to brigitta@bangla.net and mick.howes1@ntlworld.com

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