

## Becoming a Model: Community Managed Flood Preparedness Project

<b>Location:</b>	Athara Hazarri Union Council, Jhang District, Punjab, Pakistan
<b>Date:</b>	2001-2002
<b>Sector focus:</b>	Flood hazard mitigation
<b>Spatial focus:</b>	Village of 485 people. Extended later to ten villages. Subsequently to other Districts, and eventually the basis of a draft national policy on flood vulnerable populations.

### Bibliographical reference

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*Becoming a Model: Community Managed Flood Preparedness Project*, in: Madhavi Malagoda Ariyabandu and Amjad Bhatti, eds., *Livelihood Centred Approach to Disaster Management: A Policy Framework for South Asia*. Islamabad, Pakistan: Rural Development Policy Institute (RDPI), ITDG South Asia, and Duryog Nivaran Secretariat, 2005 [ISBN 955-9417-20-7].

### Abstract

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In 2001, the villagers of Kamra began with the assistance of the Pakistani NGO, Doaba Foundation, a process of needs assessment and action planning in the face of recurring floods. These floods were partly due to the annual natural monsoon cycle, and partly to the effect of engineering works up stream designed to protect irrigation investments including headworks, irrigated land and crops thereon.

The approach taken was livelihood based, departing from the frequent isolation of the village from the nearest market town as one of the most important flood impacts. Consultations in the village revealed many other needs, especially in the economic and social realm. A community based organization (CBO) was created to mobilize resources for a number of projects to meet these perceived needs.

By 2002, a bridge/culvert had been built that freed Kamra from flood-induced isolation. A community center was also built where skill training in veterinary innovations and craft work was being taught and where villagers could shelter in large floods. By 2003, this livelihood based approach had been extended to ten other villages, and the concept had been diffused and discussed in other Districts. By 2005, the Doaba Foundation had studied the situation of villages like Kamra in the rest of Pakistan and made recommendations at the national level for a policy to reduce risks due to flooding exacerbated by upstream hydro-engineering.

## Technical description

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**Hazard/risk type:** Monsoon rain induced flooding & human induced flooding due to design of head works drainage from a system that protects a nearby city from flooding and an irrigation scheme (embankment mainly protects headworks, canals, irrigated land [including villages] and crops thereon. During high floods the embankment protects the city as well) from flood damage. In the past opening of the flood gates to protect the city would take place without adequate warning to the down stream villagers.

**Type of assessment:** Needs assessment, focused on household livelihoods, using the frequent seasonal isolation and threat from floods as the starting point.

## CRA process

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The process was initiated by discussion between the village population, and a local NGO (the Doaba Foundation). It took flood and flood related isolation of the village as the starting point to discuss, in depth, a wide range of needs including increased income, employment and livelihood options, health care, access to markets, and schooling.

**Methods used:** The methods were non-technical, discussion based, in focus groups based on established modes of problem solving. The village mosque was the center of these discussions. Kamra as a pilot project was managed by Intermediate Technology Development Group and implemented by Doaba Foundation, which mobilized the Kamra community. Once needs were identified and prioritized, and infrastructure items were agreed upon, the community chose persons to become members of various committees, particularly of two important committees, one concerned with the construction of the bridge and the other with construction of 12-door (*bara dari*) hall or community center. Chairmen of the two committees kept accounts regarding purchase and use of construction materials, and the community input both in kind/ labor and in cash along with the grant money from the project. The community apportioned its own input in their minuted meetings of the CBO.

**Was livelihood analysis used?** Yes. A livelihood approach was used to identify constraints on village-based hazard mitigation. This revealed small per household agricultural land and 31% landless, no cash savings, only a few animals owned, and low returns for wage labor. This resulted in design of a community center in the highest point of the village where BOTH skills training for enhanced livelihoods could be taught and where the population could seek shelter in a severe flood.

**Was external specialist knowledge introduced?** In the initial phase, technical information on flood warning was provided by the management of the headworks that protect Jhang City and irrigation infrastructure. This technical warning information was translated into vernacular terms and disseminated from the village mosque as an integral part of a newly conceived local warning system. Construction advice was provided by the local NGO. Construction advice regarding the bridge was provided free of cost by a retired sub-engineer with experience in irrigation, construction works. Doaba Foundation facilitated the linkage between the Kamra community, this and other specialists including Trimmu Headworks Authorities, that keeps record of discharge of water and build embankments for protecting irrigation infrastructure and also vulnerable cities.

## Vulnerability analysis

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The village population of 485 does not appear to have been broken down into some who were more and some less vulnerable to the primary hazard, flooding. Although there were undoubtedly differences in income, wealth, access to assets among these villagers and some were probably able to feed animals and maintain households more easily when isolated by floods, indeed even found it easier to replace assets following very destructive floods, these differences were not highlighted in project documents. Everyone in Kamra village was, to be sure, isolated by flooding, and that was the starting point of the project.

## Capacity analysis

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**Resources available:** *Project Itself:* The Kamra village council and a local NGO, the Doaba Foundation, villagers providing 40% of the cost of the bridge/culvert themselves. Local government provided money toward construction costs. *The Village:* Since the project, some villagers have been trained in administering veterinary vaccinations, and they sell this service outside the village. Despite caste and gender differences, the mosque serves as a center capable of mobilizing social capital for projects such as construction of community center and the bridge/culvert. The village organization has also developed a concentrated animal feed block that can be stored for feeding buffaloes and cows during flood seasons. This, too, is marketed outside the village.

**Limitations to Capacity:** Before the project little or no cash savings in the village and a high level (31%) landlessness. Small agricultural plots. Few non-farm employment options. Only 50% literacy. Long experience of isolation and marginality, leading to fatalism and little faith in the ability for circumstances to change.

## Action planning and implementation

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**What actions were actually planned?** Construction of a bridge/culvert across the 40 meter wide drainage canal; construction of a village flood shelter cum community center; development of community managed flood warning system; diversification of available livelihood options through skill training, micro-credit and local technological innovation. Micro-credit was meant for the very poor and was included in the scheme.

**Were all actions actually carried out?** Yes. By the June, 2002 monsoon rains, the bridge and shelter were in place, and village mobility was for the first time unaffected by overflow into the drainage canal from the irrigation head works lake.

**Have these actions turned out to be sustainable?** Yes, the village council sees the maintenance of the bridge and flood shelter. There is a 30x30 feet hall, one important function of which is to provide shelter during floods. Otherwise, the hall is multi-purpose one; it has 'office' spaces for the local 'specialists' in livestock vaccination, agricultural machinery repair, first aid and health/hygiene prevention measures, animal feed block preparation and the person in charge of the early warning system. The specialists have inbuilt *almirahs*.<sup>1</sup> Two of the eight *almirahs* are used by managers of female and male CBOs. The hall also serves as a place for community social gatherings, including marriage occasions.

**Were there any unanticipated additional benefits of the actions?** Besides preparedness for flooding, there have been significant economic benefits because the village is no longer isolated from the local market town for months on end. Villagers could get produce to market (sugarcane, vegetables, and handicrafts), and goods can be transported to the village. Non-economic side benefits also include the ability to transport ill or injured villagers to health care during flood seasons. Also children's education was no longer interrupted by their inability to travel to Jhang City to school during flood seasons.

Additionally, a candidate from this village put forward by the Kamra Village Organization won a seat on the local government council, thus providing the village with more access to government services and further reducing its isolation.

**Were there any unanticipated negative consequences of the action?** No.

**Limitations on action/ sustainability of actions:** None at the scale of present actions.

## Indicators

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None were explicit in the project documents; however, some of these did include log frame and work plan calendars, so the implication is that finishing of construction tasks on time would have been considered an indicator of success. No specific indicators of successful participation were found.

## Contextual notes

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**Existence/ role of prior or contemporaneous conflict?** Overt, violent conflict does not seem to have played a factor.

**Role of displacement/ relocation?** The Jhelum River has shifted its course twice, causing the village to re-locate twice in living memory.

**Role of prior disaster & prior recovery attempts?** The spontaneous process of CVA and action plan in Kamra was triggered by the village population attempting to avoid further disruptions such as those caused by the shifts in the river course. Because of isolation – an isolation reinforced by the intermittent flooding of all overland access – the village was mobilized / forced to study the village's own resources and come up with its own action plan, with facilitation from Doaba Foundation.

**Significant historical, geographic, economic, political, or cultural issues that influenced this instance of CRA and its consequences?** Location of this village at the confluence of two rivers and down stream of hydraulic works dating from 1939 designed for protection of the city of Jhang from flooding and also for irrigation had a major effect on vulnerability and thence the CRA process. (works designed mainly for irrigation scheme, and protection of the city during very high floods) Without benefiting from either urban flood protection or the irrigation scheme, this – and other villages – has suffered costs and additional risks because of the way the flood protection has been engineered. In the course of excavating earth to build embankment to protect irrigation scheme headworks, irrigation canals, canal irrigated areas and crops upstream, a depression 40 meters wide and 2 km long was created. Flood water filled this depression, isolating Kamra and other settlements at the confluence of the Chenab and Jhelum Rivers. This location is highly prone to flooding, especially during the monsoon rains.

## Strategic notes

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**How has this practice of CRA influenced change in policy and practice at the national level?**

Two years after the original village project, the experience served as the inspiration for a draft national policy for populations vulnerable to flooding. This was undertaken by the local NGO originally involved with Kamra village, the Doaba Foundation.<sup>2</sup> Also, a number of exposure visits by Pakistani journalists have been organized so that the project has wider national attention. Good rapport was also established with Multan District administrator who has become a member of the National Assembly and a Jhang Provincial Assembly member who continues to push for replication of the Kamra village livelihood based approach to flood risk mitigation.

**How has this practice of CRA influenced change in policy and practice at local level?** This village served as a model for a livelihood based flood management project in ten other villages under taken by Doaba Foundation and funded by Oxfam Pakistan.

**How has this practice of CRA influenced the level of organization and solidarity in the locality where it was carried out?** The village is better organized. It was able to put forward and see elected one of its own members as a local government councilor.

**Less divided along class, gender, age, ethnic lines?** Women have expanded livelihood options through weaving and selling mats made of locally growing reeds. An improved cooking stove and newly established community health center also make their lives easier. Construction of women's only toilets was an important innovation that added privacy and security, especially during flood seasons. A women's community based organization (CBO) has made it possible for women to be

integrated into all the work that has spun off around the original flood risk mitigation project. Increased incomes for a number of people have raised their economic and social status. This is particularly true of those who have learnt new skills and have become influential in the community decision-making process.

**More divided along these lines?** No.

**Are the people living in this area more able to speak out on issues that concern them?** Yes. They now have a lively and permanent forum and community center in which to meet.

**Have new civil society organizations been created directly or indirectly because of this practice of CRA?** Yes, taking the form of the Kamra Village Organization and the women's CBO. Such organizations are now in the process of registration under law.

## Lessons learned

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- ♦ A livelihood approach to even what appears to be a straight forward "technical" problem such as improper flood control drainage and seasonal transportation problems can provide the basis for much wider benefits and empowerment.
- ♦ A single investment such as the community hall in Kamra can serve many beneficial purposes.

## Keywords

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Urban flood control externalities, flood, monsoon, transportation, livelihoods, women's participation.

## Resource person(s)

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Amjad Bhatti, Rural Development Policy Institute (RDPI), House 232/10, Street 7C, Sector II, Airport Housing Society, Rawalpindi, Pakistan, email: [amjad@rdpi.org](mailto:amjad@rdpi.org) & Dr. S.H. Ansari, Doaba Foundation, Islamabad, Pakistan, email: [doaba\\_foundation@yahoo.com](mailto:doaba_foundation@yahoo.com).

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<sup>1</sup> Almirah- a wooden shelf in the wall meant to save record, register, tools, stationary, clothes, etc.

<sup>2</sup> The Doaba Foundation initiated a study of populations living down stream of major dams and barrages in Pakistan. Beginning with the situation of Kamra village, they documented the plight of large numbers of people "inhabiting the low lands and periodically suffering losses owing to flood intensity aggravated by embankments." (Source: Dr. Ansari, Doaba Foundation in report to ITDG-South Asia, 2004.)

## Becoming a Model: Community Managed Flood Preparedness Project

**Location:** Athara Hazarri Union Council, Jhang District,  
Punjab, Pakistan

**Date of update:** 26 February 2008

### Background

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From 2001-2005, a process begun with Pakistani NGO Doaba Foundation facilitated needs and vulnerability assessment in one village, Kamra, yielded action projects including a pedestrian bridge and other spin offs including a women's group. Ironically, continued shifting of the river Jhelum had by early 2008 claimed half of Kamra's agricultural land and threatens the village itself.

### Update Time Frame, Mode of Follow Up & Confidence Level

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Seven years since project inception, 3 years since case study was written. Update was compiled from Pakistani media accounts and emails from one of the original case study authors (Bhatti), who had been in touch with the facilitating NGO by phone. Confidence level is moderate given that no first hand account is available.

### Sustainability

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Institutional sustainability is strong. The NGO is still active in this part of Pakistan, and the village committees and structures originally established continue to function. However, this will be moot if the villagers are forced by the shifting river to re-locate. Kamra village school has already been lost to river encroachment, so in physical terms, there has been an actual loss in shared assets.

### Actions implemented

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In the face of the treat of river course change, residents of 14 threatened villages, including Kamra, have consulted about what to do. Given the year of visibility and engagement with local government, these villages have been able successfully to petition for assistance from the district headquarters. The NGO, Doaba Foundation, continues to facilitate and assist the process of dialogue and common lobbying among the 14 villages.

What began as a model of participatory action planning in the face of intermittent flooding and isolation, has not turned into a major campaign of petitioning for public works to prevent further river shift and land to be allocated by government to replace farm land lost. No resolution had been reached by early 2008, as the case is complicated by limitation on spending imposed by the central governments on districts, shortage of government owned land for re-allocation, and high land prices.

The hydrology of the situation is unclear, however already in 2005 the Doaba Foundation was concerned that upstream irrigation works were disturbing the flow of the Jhelum River. It could be that the escalation of land lost to the river is a continuation and speeding up of that process. If that can be proven, it is unclear whose legal responsibility Pakistani courts would judge it is to pay compensation.

## **Welfare/security results**

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Already in the period 2002-2005, there had been an increase in marketed produce due to the new pedestrian bridge, and several new crafts had been introduced to the village. No direct measures of welfare benefits are available, but it is reasonable to assume that increased income has had a benefit. If the village and others like it cannot be protected from destruction by the shifting river course, then livelihood after forced relocation will have to be based on day labor, a much less stable and remunerative way of life.

## **Replication of method/approach**

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From 2002-2005 there had been expansion of the Participatory Action Research (PAR) model among other villages, however, at present energy is being put into the struggle to save villages from the new course the Jhelum River seems to be carving out for itself.

## **Lessons learned/open questions**

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1. Well organized local NGO facilitation can result in long lived new village institutions and spread in the adjacent area, especially where there is a local consensus about need – in this case flooding and intermittent isolation.
2. Concrete benefits do result, especially when agreed and implemented interventions impact directly on livelihoods – in this case through easier means of all season transport and marketing, and economic diversification.
3. The social capital and institutional capital built in such a process is capable of responding some years later to even greater challenges – in this case threat of shifting river course to the very existence of the village.
4. Relations established with local government in the course of such a PAR process may turn out to be vital later when another crisis hits.

## **Keywords**

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Flooding, isolation, institution building, local government, river course shift.

## **Additional resource persons**

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Amjad Bhatti, Rural Development Policy Institute (RDPI), House 232/10, Street 7C, Sector II, Airport Housing Society, Rawalpindi, Pakistan, email: [amjad@rdpi.org](mailto:amjad@rdpi.org) & Dr. S.H. Ansari, Doaba Foundation, Islamabad, Pakistan, email: [doaba\\_foundation@yahoo.com](mailto:doaba_foundation@yahoo.com).

## **Author of Update**

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Dr. Ben Wisner: [bwisner@igc.org](mailto:bwisner@igc.org)