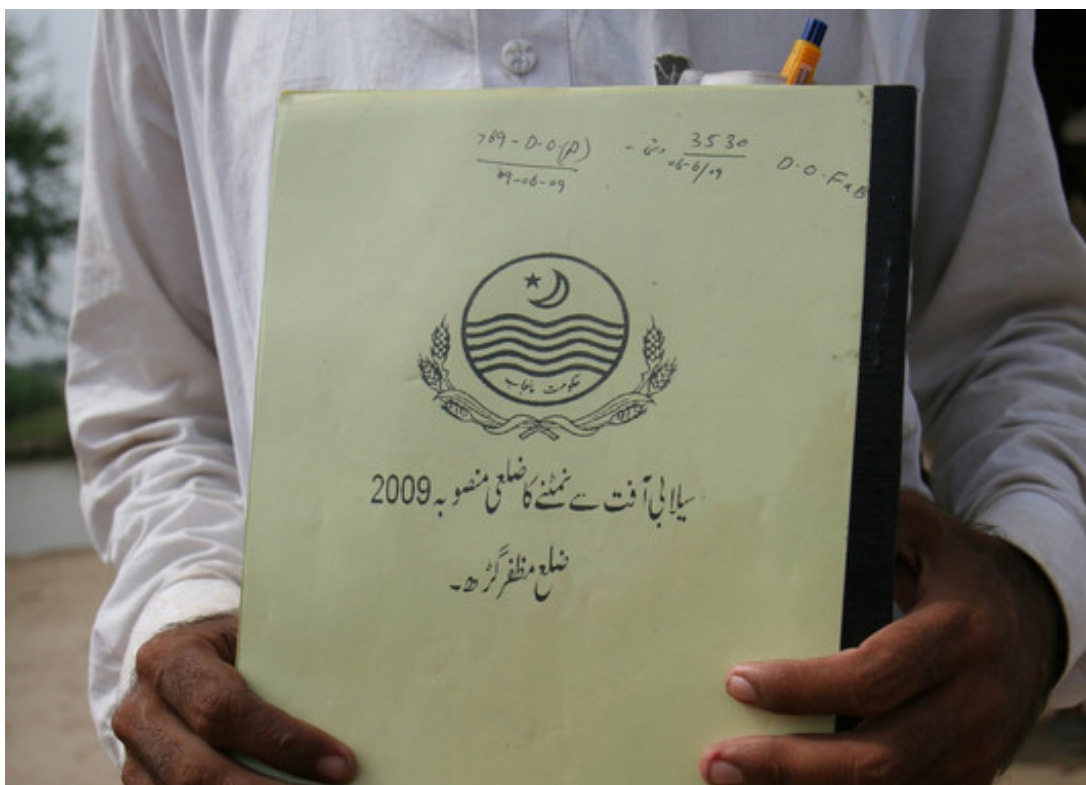


INFORMATION FLOWS FASTER THAN WATER



A District Flood Preparedness Plan, Muzaffargarh District, Punjab Province.
Photo: Jane Beesley/Oxfam, September 2010

How livelihoods were saved in Pakistan's 2010 floods

*Lessons from a mixed methods evaluation of Oxfam's
Community-based Disaster Risk Management and Livelihoods Programme in
Pakistan*

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In 2010 Pakistan suffered the worst floods in the country's history. As well as being heavily involved in the humanitarian response to this disaster, Oxfam already had climate change adaptation and risk reduction projects on the ground. One of these was the Community-based Disaster Risk Management and Livelihoods (CBDRML) Programme, operated by partner organizations in four districts of Pakistan. A subsequent quantitative evaluation of the programme in two districts found strong evidence that participating households were better prepared to manage flood-related risk than those outside the programme, and so lost fewer assets during the 2010 floods. This was a very positive outcome, tempered only by the finding that households had not diversified their livelihoods to the extent that was expected.

A qualitative follow-up study was commissioned in early 2013 to provide a deeper understanding of these results, and its findings are presented here. It shows that by empowering people to access information and act quickly in response to the floods, the two partner organizations were able to deliver quick wins to the communities they were working with, reducing their vulnerability. Building adaptive capacity in the long term, however, poses much greater challenges for community-based participatory programmes of this kind. This study supports the conclusion that resilience and empowerment are inextricably intertwined, and that achieving both requires concerted effort at different levels. Research is an important part of this, and should include mixed methods studies like the one reported here to help determine which approaches are most likely to be effective in building community resilience.

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1 INTRODUCTION

It is widely recognised that one of the most effective ways to minimize the harmful consequences of natural and other disasters is to build resilience at community level. There is much less agreement, however, on how this can best be done. Although anecdotal evidence and opinions abound, there is a lack of good comparative data regarding the effectiveness or otherwise of different approaches to building resilience at local and other scales. This reflects a more general problem in the practice of international development, where the value of evidence-based policy and programme making is acknowledged, but the relevant systematic evidence is more often than not lacking. This lack of evidence is especially critical in the context of climate change, where bridging the gap between theories of practice and solutions that work is a more urgent task than ever.

Building on its long experience of humanitarian and development programming, Oxfam GB is now seeking to generate more systematic knowledge for these purposes. Since 2011 it has undertaken intensive evaluations (referred to as effectiveness reviews) of a representative sample of its projects worldwide. These are randomly sampled in six thematic areas, four of which are readily amenable to study using quantitative methods and statistical analysis.¹ The first quantitative reviews, using a quasi-experimental survey design, were published to much acclaim.² At the same time it was recognised that some of their results required further elucidation, and so it was agreed that two (or more) qualitative follow-up studies would be undertaken on a pilot basis in order to deepen the analysis already provided by selected effectiveness reviews. The first to be selected for this kind of 'drill down' was the review of the Community-based Disaster Risk Management and Livelihoods (CBDRML) Programme in Pakistan, and it is the outcome of this that is reported here.

The combined study is, in effect, a mixed methods evaluation. As well as discussing the wider implications of its results for resilience programming in Pakistan and beyond, this paper also reflects critically on the process of evaluation itself, and how this might be improved. Although its conclusions are preliminary, it is hoped that this will stimulate discussion and debate, as well as help prepare the ground for further studies of this kind.

2 PROCESS: THE PAKISTAN PROGRAMME AND ITS EVALUATION

The four-year CDRML Programme was co-funded by the European Commission and began work in four communities in Pakistan in June 2008. In July–September 2010, just over half-way through the programme period, Pakistan suffered the worst floods in its history, attributed in part to the effects of climate change.³ Over 20 million people were affected by the flooding, which required some \$2bn in emergency aid. Oxfam was heavily involved in the humanitarian response to this disaster, which also directly affected the communities in the CDRML Programme.⁴ In the following year the programme was randomly selected for an effectiveness review under the Adaptation and Risk Reduction (ARR) thematic area, and field research for this was undertaken in December 2011 while the programme was still running.⁵ The programme came to its scheduled end in June 2012, immediately after which it was also the subject of a regular end-of-project evaluation, undertaken by Oxfam International.

Box 1: Timeline

- **June 2008:** start of Community-based Disaster Risk Management and Livelihoods (CDRML) Programme
- **July–September 2010:** extreme flooding event
- **December 2011:** effectiveness review undertaken in two communities in Punjab Province based on quasi-experimental survey design (results published in June 2012)
- **June 2012:** end of CDRML Programme, followed by an OI end-of-project evaluation
- **February–March 2013:** Qualitative follow-up study undertaken in Pakistan (report written up in April–May 2013)

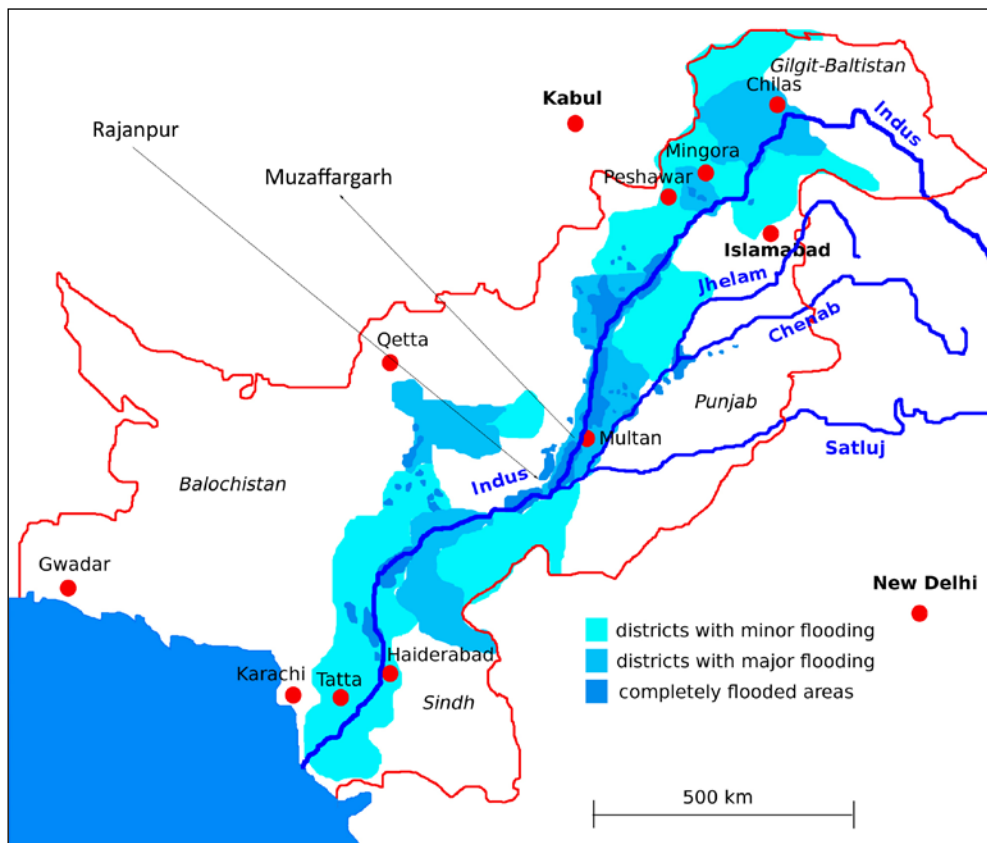
THE EFFECTIVENESS REVIEW OF THE CDRML PROGRAMME

The effectiveness review focused on the work carried out by two of Oxfam's partner organizations – the Doaba Foundation and the Help Foundation – in the Muzaffargarh and Rajanpur Districts of Punjab Province (see Figure 1). Over 21,700 people living in 60 villages in these two districts were reached through the programme. They are especially vulnerable to extreme flooding events, given that they reside directly on the floodplains of the Indus and Chenab rivers. This was amply demonstrated in 2010 when the rivers flooded and swept through their communities.

As it happens, the overall aim of the CDRML Programme was to reduce their vulnerability, particularly by reducing loss of life and assets and promoting livelihood resilience in times of extreme flooding. The main interventions at community level included:

- Disaster risk reduction training (including first aid and search and rescue) and village disaster management planning;
- Construction of raised emergency shelters, culverts, water harvesting ponds, and 'flood-friendly' pit latrines;
- Livelihood, agriculture, and animal husbandry training;
- Distribution of goats and hand pumps to exceptionally vulnerable households.

Figure 1: Map showing extent of flooding on 26 August 2010 and locations of Rajanpur and Muzaffargarh Districts



Source: adapted from http://en.wikipedia.org/wiki/File:Indus_flooding_2010_en.svg and the edited version in Abidi-Habib, Colvin and Irshad (2013)⁶

To assess the effectiveness of these interventions in reducing risk and promoting adaptive capacity, a quasi-experimental impact evaluation design was employed. This involved administering surveys to representative samples of 341 households in 57 villages that were targeted by the programme, and to control groups of 400 other households in 63 similar villages in adjacent areas that were not being targeted. Propensity score matching and multivariable regression were subsequently used in the statistical analysis of the data to reduce bias in the comparisons made between the two groups.

Two key areas of interest were investigated in this way: a) the extent to which the supported and unsupported households possessed characteristics that were assumed important for successfully coping with and recovering from extreme flooding events, as well as in adapting to emerging climatic trends and uncertainty; and b) the extent to which they were affected by the extreme floods of July–September 2010. Analysis then focused on teasing out statistically significant differences between the two groups of households, those that had been subject to programme interventions, and those that had not participated in or been directly affected by the programme.

The results of this effectiveness review were published in June 2012. A number of large and positive differences were identified between the intervention and comparison households. Overall, the intervention households scored more positively on most of the resilience characteristics. There was also strong evidence that they experienced less asset loss during the 2010 floods. One particularly noteworthy finding was that the supported households were actually poorer in terms of asset ownership before the programme began but were better off at the time of the assessment exercise. The respondents from the supported villages were also

found to be more aware of their villages' disaster management plans and had participated more in disaster preparedness meetings.

By contrast, there was no indication that the programme had positively affected livelihood diversification and motivation among the supported households to pursue alternative livelihood strategies. But there was very strong evidence that the programme generated positive changes in terms of reducing flood-related risk.

Figure 2: The traffic light symbols in this diagram provide a quick overview of the results of the effectiveness review

Rating key: ● - Evidence supporting large impact; ● - Evidence supporting more modest impact; ● - Evidence of large impact, but only for specific sub-groups/measures; ● - Evidence of modest impact, but only for specific sub-groups/measures; ● - No evidence of impact

Outcome	Rating	Commentary
Outcome 1 – OGB global ARR outcome indicator	●	Strong evidence that the programme affected the majority of the 'resilience' characteristics in all four dimensions assessed.
Outcome 2 – Increased advanced warning before onset of extreme flooding	●	Households in the intervention villages received, on average, about two days of advance warning, against an average of one day for households in the comparison sites.
Outcome 3 – Reduced loss of assets in times of extreme flooding	●	Households in the intervention villages reported losing less livestock, grain, and equipment/tools than households in the comparison villages.
Outcome 4 – Ability to meet household needs in times of extreme flooding	●	Intervention households were poorer in 2008 than the comparison households but are now relatively richer and reported being in a better position to meet basic needs.

Source: Hughes (2012b) 'Community-based Disaster Risk Management: Pakistan 2011/12', Project Effectiveness Reviews (snapshots)⁷

THE QUALITATIVE FOLLOW-UP STUDY AND ITS METHODOLOGY

The results of the effectiveness review were striking and impressive. Interpreting them, however, proved more difficult: the quantitative methodology of the effectiveness review was designed to measure programme impacts, but not to explain them. The published report of the evaluation therefore recommended the following follow-up actions:

- Review, document, and share the Doaba Foundation and the Help Foundation's approaches to programme implementation and working with the participating villages;
- Explore possible reasons why the programme was unsuccessful in promoting livelihood diversification;
- Assess whether there are differences between the two partners in promoting awareness about climate change;
- Seek ways of integrating climate change adaptation measures into the programme more thoroughly to take it to the next level.⁸

Oxfam GB's Policy Research Team had already planned to conduct one or more follow-up studies of the effectiveness reviews that had been undertaken by the Evaluation and Effectiveness Team. Given the overwhelmingly positive results of this review of the CDRML Programme in Pakistan, and the importance of the questions that remained unanswered, it was selected as the subject of the first pilot follow-up study. In February 2013 Emerald Network Ltd.

was commissioned to undertake this qualitative study, and asked to answer the following research questions:

1 How can the findings of the Pakistan programme effectiveness review be explained and deepened? What recommendations for Oxfam and its partners in Pakistan and elsewhere follow from further in-depth qualitative investigation?

- 1.1 How did the programme in Pakistan work to generate the positive effects as evidenced by the quasi-experimental effectiveness review? What were the actual mechanisms at work?
- 1.2 Why were some of the resilience characteristics not affected by the programme? What would the programme need to have done in order to have positively affected these characteristics?
- 1.3 Are the findings of the qualitative research and the effectiveness review complementary and mutually reinforcing? Are there any significant inconsistencies or gaps?
- 1.4 What are the implications of this in-depth qualitative investigation for Oxfam's programmes and partners in Pakistan, and ARR programming more generally?⁹

Research was undertaken in the UK and Pakistan in February–March 2013 using the following qualitative methods:

- Literature review (of programme and evaluation documents, and other sources relevant to understanding the programme and its implementation in Pakistan, including evaluation findings);
- Key informant interviews (in the UK and Pakistan, with Oxfam staff, partners and programme implementers, and other programme stakeholders);
- A learning history workshop and programme mapping (held in Islamabad with Oxfam country staff);
- Focus group discussions (with programme stakeholders and beneficiaries in Rajanpur and Muzaffargarh Districts). These were held with the following groups:
 - The partner organizations that had implemented the CBDRML programme;
 - District government officials, including directors of relevant District departments;
 - Community-based Organization (CBO) Forums (umbrella organizations) in the programme areas;
 - CBOs and their members who had participated in the effectiveness review.¹⁰

Although this would have been desirable, resource and time constraints meant that it was not possible to research detailed household case studies in both intervention and comparison villages. Security considerations also made research at community level in Pakistan more difficult and time-consuming than it might otherwise have been. Nonetheless, and despite an unscheduled delay, the consultants were able to complete field research satisfactorily. The data collected were analysed in Pakistan and the UK and presented in a draft final report in April 2013. Following detailed comment from Oxfam staff, a detailed response was submitted by the consultants in May 2013 and subsequently appended to the initial report.

FINDINGS OF THE FOLLOW-UP STUDY

The rest of this paper is based primarily on a distillation and re-analysis of the consultants' combined report, with reference back to the results of the effectiveness review. Additional information is derived from a visit to Islamabad by one of the authors of this paper (Ricardo Fuentes-Nieva) in March 2013 while the follow-up study was underway. A further quick literature review has also been undertaken, focusing in particular on recent Oxfam work on resilience-building. Account has also been taken of the results of the end-of-project evaluation that was undertaken by local consultants in June 2012, and that was not available when the effectiveness review was conducted.¹¹

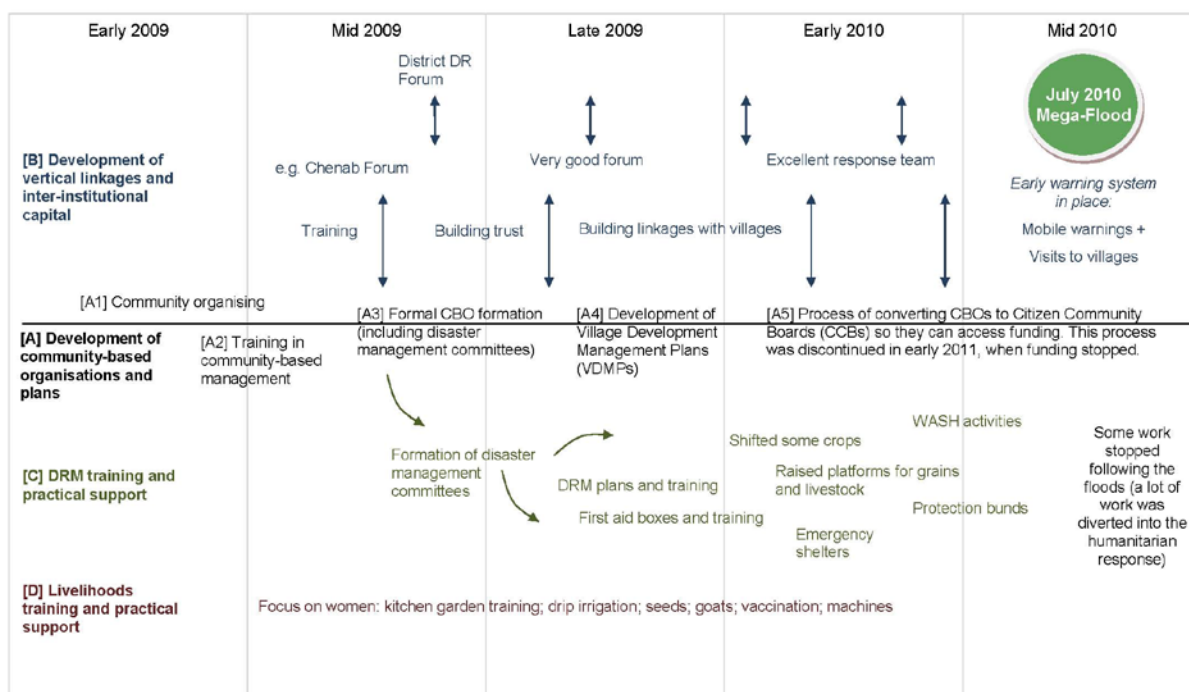
The response to the 2010 floods

The 2010 floods could not have been predicted when the CBDRML Programme was being planned, although it was more than likely that flooding events would occur at some time in the future. Although undesirable in themselves, the floods and communities' response to them provided an excellent opportunity to evaluate the vulnerability reduction component of the programme. The effectiveness review produced unequivocal findings regarding participating households' improved ability to respond to the extreme floods of July–September 2010:

- Intervention households received on average around two days' advance warning of the floods, whereas the comparison villages and households only received about one day's warning, i.e. half of the time;
- The intervention households therefore had more time to prepare for the floods, including evacuating themselves and their assets;
- As a result they lost less livestock, grain, and equipment and tools during the 2010 floods than did households in the comparison villages.

These positive results are all the more significant because of the relatively short time that had elapsed from programme start in June 2008 to the beginning of the flooding. In fact programme interventions at community level had only really begun in early 2009, meaning that this period was in effect much shorter, around 18 months. The learning history map developed during the follow-up study makes this clear, as well as outlining the actual interventions that took place in the one and a half years before the serious flooding in July 2010. The diagram (Figure 3) focuses on this critical 18-month period and shows four key streams of activity by partner organisations: [A] development of community-based organisations and plans; [B] development of vertical linkages and inter-institutional capital; [C] disaster risk management training and practical support; [D] livelihoods training and practical support.

Figure 3: Diagram showing detail from the learning history map developed with OGB Islamabad staff



Source: Abidi-Habib et al. (2013, Figure 3)¹²

Why was the response so effective? How did households participating in the CBDRML Programme become much better prepared to cope with such an extreme flooding event in such

a relatively short period of time? What did Oxfam's partner organizations do that had this very positive result?

Box 2: Effective citizenship and new information flows in Muzaffargarh District

'We did not know how to access different line departments and were not aware of laws and policies. The partner organization helped in developing linkages with these departments; now we have [government officials'] mobile phone numbers and also invite them to our [CBO forum] events.'

'As part of the project, we have learned about how to gain knowledge about water levels at various barrages that are directly in the flood pathway of our village. So first we call the barrage management of Trimmu headworks, then we call the barrage management of Head Maralla, at each place the officer in charge, whose phone numbers we now have thanks to the information shared through the district flood committee, informs us of the danger level of the water. Once, we started to evacuate our families and assets to the shelter, and other villagers in the [non-project village] said "Are you mad? The river is almost dry!" But we got correct information in advance of them and advised them to do the same.'

Source: *Chenab Forum discussion, quoted in Abidi-Habib et al. (2013) Part 2, p. 16*

The follow-up study, backed up by Oxfam's interviews, found that it was the participatory approach and networking capabilities of the Doaba Foundation and the Help Foundation, combined with their disaster risk reduction capacity-building with local CBOs, which supported effective advanced warning response. Key components of this included:

- Relationship-building at community level, with an emphasis on partnership and participatory planning at an early stage in the process, and on the importance of local ownership and the mobilisation of local knowledge during implementation;¹³
- The development of vertical linkages between different institutional levels using a range of influencing and mobilizing strategies, including the creation of democratic district-level forums for disaster risk reduction;
- The revival of hitherto moribund government plans and development of an early warning system that combined technology and social/institutional interaction, translating and simplifying early warning information for local use, enhancing access and understanding, and so local capacity to act on information;
- Undertaking a diverse range of other disaster risk reduction activities, including disaster risk management planning and training, and a range of other practical activities.

The combination of all of these activities created new social and systemic capabilities in the communities that were being supported, leading to a more effective response to the 2010 floods and the positive outcomes related to this (outcomes 2, 3, and 4 in Figure 2 above). In Oxfam's discussions with programme partners in Islamabad, particular importance was given to the role played by the Doaba Foundation and the Help Foundation in linking different institutions, and translating and simplifying technical information so that it was readily understandable. Most importantly of all, this led to the creation of a **demand for information** among participating villages, which then further disseminated it to their neighbours. This early warning information flowed faster than the rising floodwaters, thus enabling informed villagers to respond much more quickly than those who were not informed.

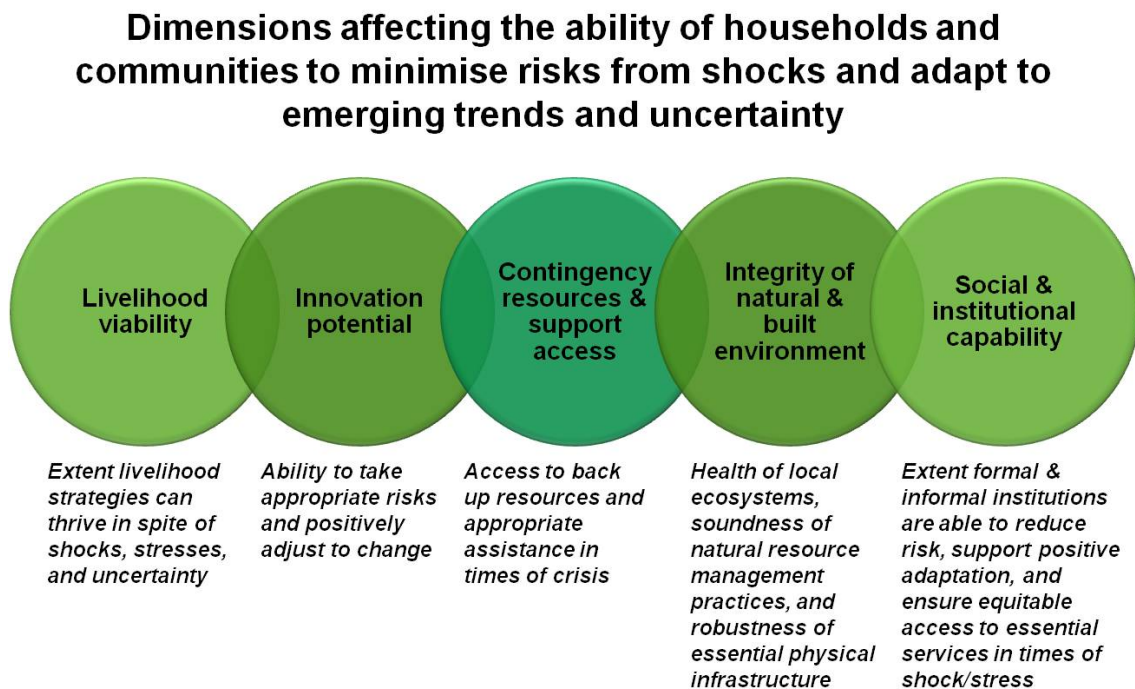
This observation – that information flows faster than water – encapsulates a critical lesson for disaster preparedness in the flood-prone plains of Pakistan. Significantly, the study found that there was no apparent difference between the two partner organizations in their ability to foster this demand and provide the technical knowledge and skills and institutional

linkages that made its realization possible.¹⁴ In Oxfam’s discussions with them, both organizations concluded that the programme was successful because of the importance given to the way in which early warning information is generated and disseminated, how it is used, understood, and acted upon.

The development of resilience

As well as evaluating households’ response to the 2010 floods, the effectiveness review measured the impact of the CBDRML Programme on a number of different resilience characteristics at household level. These characteristics were selected to represent four of the five dimensions of resilience that Oxfam recognises for the purposes of its effectiveness reviews (see Figure 4: for practical reasons ecosystem health is not evaluated). This was therefore a complex aggregate measure – a point that will be returned to later in this report. The quantitative evaluation found strong evidence that the programme affected the majority of resilience characteristics in all four dimensions that were assessed (outcome 1 in Figure 2 above). It asked, but did not answer, a further question: does this reflect the partner organizations’ (different?) approaches to programme implementation and working with participating villages?

Figure 4: The five dimensions of resilience



Source: Hughes (2012c)¹⁵

The follow-up study found that the general reasons for this positive result were much the same as those already given. It has already been seen that the Doaba Foundation and the Help Foundation were extraordinarily successful in the 18 months preceding the 2010 floods. They rapidly engaged intervention villages in a range of activities (as outlined above); trust was quickly built between them and villagers participating in the programme; and a new technical discourse developed in the intervention villages within a relatively short period of time, enabling villagers both to demand access to information and to secure that access more readily than they had in the past. All of this had a positive impact on the dimensions of resilience and those particular resilience characteristics that the effectiveness review subsequently measured.

The key features of the partner organizations were found to be the following:

- Good participatory skills (underlying effective community organising, planning, and training);

- A good social-ecological systems understanding of the local context (including awareness of the asymmetries of justice and rights in participating communities).

The community-based approaches employed by the Doaba Foundation and the Help Foundation are much the same as those shared by NGOs throughout Pakistan and the wider region. Although there are some differences between the two organizations in terms of their general objectives and styles of management, it is a testament to the effectiveness of participatory approaches to disaster risk management and resilience-building that they were both able to generate positive outcomes in the different districts in which they worked. Indeed, the follow-up study found that differences in the performance of the Doaba Foundation and the Help Foundation at local level were not as significant as suggested by some of the results of the effectiveness review. Both partner organizations were able to successfully combine strong participatory approaches with appropriate technical knowledge and skills that then readily transferred to programme participants.

Livelihood impacts and non-impacts

The CBDRML Programme and partner organizations undertook a number of activities designed to strengthen householders' livelihoods and so render them less vulnerable to the effects of flooding. But despite its positive impacts on risk reduction and a range of resilience characteristics, the effectiveness review found no statistical evidence to indicate 'that the programme positively affected livelihood diversification and motivation among the supported households to pursue alternative livelihood strategies.'¹⁶ The follow-up study was tasked with uncovering the reasons for this, and came up with the following main findings:

- There are significant local constraints to livelihood diversification and the motivation to pursue it, including:
 - the effects of physical displacement caused by flooding;
 - poor access to state and other services and support for women in particular (for one example see Box 3);
 - lack of secure land tenure among the target communities;
- Livelihood diversification per se was not a programme objective, and programme timeframes and implementation further constrained its achievement.

The first of these points might be rephrased by saying that there are significant structural (social, economic, and institutional) constraints to livelihood diversification in the flood-prone communities of Rajanpur and Muzaffargarh Districts. Women's options are particularly restricted in this regard, both because of the prevailing pattern of gender relations within households (they have less control than men over incomes and livelihood assets) and because of their more limited access to different kinds of support for livelihood diversification. Over and above these gendered constraints, the livelihood aspirations of all householders are limited by the insecurity of land tenure and chronic uncertainty stemming from displacement and the constant threat of this.¹⁷

Although the CBDRML Programme had a livelihoods component, it was not designed to tackle these structural constraints head on. Instead the partner organizations were tasked with strengthening local livelihoods as part of an integrated package of risk reduction and resilience-building that targeted the most vulnerable households in particular. They encountered some difficulty in doing even this because the programme did not provide timely and sufficient funding for livelihood-related activities.¹⁸ However, this limited approach was never going to remove all of the structural constraints to livelihood diversification in these communities, and certainly not in the four-year timeframe of the programme. It should be taken into consideration too that the effectiveness review evaluated livelihood diversification that had taken place in the rather shorter period from early 2009 (when programme activities began at community level) to late 2011 (when field research for the review was undertaken).

3 DISCUSSION: LESSONS FOR PROGRAMMES AND PROGRAMME EVALUATIONS

It should be emphasized again that these findings have been distilled from the interviews and the report of the qualitative follow-up study, which provide a lot more detail than can be given in a short overview.¹⁹ Nonetheless, we believe that these are significant findings and that a number of important lessons can be drawn from them. These are discussed below, along with some of the methodological implications of this study for future evaluations.

Box 3: Lack of access to banking services as a constraint to livelihood diversification

'We have approached the new banks for the poor [...] to come into the riverine belt in order to extend their services to the small farmers of the project area – but no one is willing to come into this 'bait' [riparian floodplain area] because of the difficulty of access. Their means of transport are really not robust enough to withstand these dirt roads: motorcycles and Suzukis just won't do all year round here. Maybe they will come eventually when the community-based organizations of this area become better known...'

Source: comment from one of the partner organizations, quoted in Abidi-Habib et al. (2013) Part 2, p. 27

LESSONS FOR RESILIENCE-BUILDING

The effectiveness review demonstrated clearly that the CBDRML Programme in Pakistan had a very positive impact on participating households and in particular their ability to cope with extreme flooding. Oxfam's two partner organizations in the Muzaffargarh and Rajanpur Districts of Punjab Province, the Doaba Foundation and the Help Foundation, achieved this success in a relatively short period of time. The 2010 floods swept through local communities after a mere 18 months of active programme implementation, yet they were already much better prepared to respond to this disaster than villages outside of the programme. And in little over a year after the retreat of the floods, participating households exhibited a much greater degree of resilience (as measured by their possession of a series of resilience characteristics) than their unsupported counterparts. This was not matched, however, by any significant programme impact on livelihood diversification.

In explaining these outcomes, the follow-up study highlights a number of features of the programme and its implementation whose presence (and in one case absence) were critical:

- The importance of building social and institutional capital (the social capability dimension in Figure 4), and the role played in this of a systemic mix of activities, including the introduction of and training in appropriate technologies, combined with social mobilisation;
- The importance of communication, information, and the development of a shared discourse and knowledge of entitlements among programme participants, empowering them to act in a timely fashion, most notably in response to the 2010 floods;

- The importance of participatory and rights-based approaches, local understanding, and the choice of partner organizations on the basis of their possession of these capabilities;
- The need for clear livelihood objectives, targeted interventions, and appropriate timelines if these are to be pursued in addition to the basic goals of disaster risk reduction and management.

The last two points are not new. The difficulty of going beyond risk reduction and achieving a more generalised impact on livelihoods and resilience has been noted in the evaluation of other programmes, including Oxfam's long-running River Basin Programme (1999–2010) in the Ganges-Brahmaputra-Meghna Basin in India, Bangladesh and Nepal.²⁰ The value of participatory approaches to disaster risk reduction has been well established for many years, and in keeping with this Oxfam has developed a Participatory Capacity and Vulnerability Analysis (PCVA) tool, 'a risk analysis process designed to help staff and partner organizations engage with communities in contexts where natural disasters are significant drivers of poverty and suffering'.²¹

Although these are not new observations, they have been clearly demonstrated and evidenced in this combined study (the effectiveness review and its follow-up). And the first of the points made above complements the emphasis on participatory process by indicating the added value of employing an integrated approach that focuses on the development of the social capability dimension of resilience. Despite the differences between them, both the Doaba Foundation and the Help Foundation were well equipped to implement such an approach – and the good news is that in the wider region there are many other organizations like them with similar capabilities. The second point draws attention to a particularly important set of consequences for communication and knowledge that stem from working in the way that Oxfam's partners did. Training and other programme activities fostered the development of a new discourse about risk reduction in the participating communities, a discourse that among other things empowered villagers to demand and access information that had previously been denied them. Improved information flows were not the only, but certainly the most crucial, outcomes of this knowledge-based empowerment, as was amply demonstrated by their timely response to the 2010 floods.

Research and evaluation of this kind are essential if Oxfam is to act effectively on its ambition to reorient aid towards a combined agenda of risk and poverty reduction that recognizes the fundamental role of inequality in exposing poor people to risk:

*Oxfam defines resilience as 'the ability of women, men, and children to realise their rights and improve their well-being despite shocks, stresses, and uncertainty'. Resilience cannot be just about coping or 'bouncing back'; although important, resilience-building must be more than just preparedness and risk prevention. Oxfam emphasises the aspirational element, such that poor and marginalised women and men can thrive despite shocks, stresses, and uncertainty.*²²

The evidence presented in this paper suggests that putting this into practice will be no easy task, and especially difficult to achieve in the context of community-level programmes with limited timeframes. Indeed the briefing paper from which this quotation is taken advocates action at every scale, with a particular emphasis on the international and national levels that are often ignored in traditional disaster risk reduction and management programmes. Nonetheless, the combined study of the CBDRML Programme in Pakistan suggests an important opportunity. The programme was so successful at reducing risk in the short period of time that it was active before the 2010 floods that serious consideration might be given to out-scaling – adopting and adapting its key components elsewhere – and advocating for this, as well as further research and evaluation, as widely as possible.

LESSONS FOR RESEARCH AND EVALUATION

The quantitative effectiveness review of the CDRML Programme and its qualitative follow-up comprise in effect a mixed methods evaluation. There are a number of obvious ways in which the process that has been followed might be improved. These can be summarised as follows:

- By integrating quantitative and qualitative methods in the effectiveness reviews, so that they inform each other (enhancing explanatory power and reducing the cost and other resource requirements);
- By including gender and power analysis as central components of evaluation (for example by introducing gender disaggregation in the household survey methodology, employing better measures of empowerment, and ensuring that research is embedded in a good understanding of structure and agency in the political economy at relevant scales);²³
- By using clear and unequivocal indicators of impact in preference to complex indices based on theoretical models and long chains of reasoning (which rendered the definition and measurement of the different dimensions of resilience particularly problematic);
- By ensuring that survey design takes account of the theories of change employed by the programmes and organizations being evaluated (easy to forget when the emphasis is on measuring global indicators);
- By considering how effectiveness reviews and end-of-project reviews might be better coordinated (as opposed to being conducted without any cross-reference);
- By finding ways in which translation issues and 'discourse effects' can be minimised in survey research (as well as the usual kind of translation problems, participating households' familiarity with the discourse of risk reduction introduced an unexpected element of bias).

The immediate task, though, is to undertake further studies of this kind (linked to other effectiveness reviews), both to build on these methodological recommendations and to continue to provide the evidence that will enable the exploration of ways in which programme practice can be improved.

4 CONCLUSION

The most important lesson that can be drawn from the mixed methods evaluation of the CDRML Programme in Pakistan is that with the right approach effective early warning can be developed in a relatively short period of time. The key ingredients of this approach are participatory planning and action within local communities and between them and higher levels of administration. In-depth research shows that by empowering villagers to access and demand early warning information, Oxfam's two partner organizations in Punjab Province, the Doaba Foundation and the Help Foundation, were able to provide villagers with the capacity to respond quickly to the 2010 (and subsequent) floods. This was achieved in a mere year and a half at a time when the programme was attempting to attain a wide range of objectives, including (rather less successfully) livelihood diversification. As the quantitative effectiveness review demonstrates, participating households had twice as long as others to respond to flood warnings, and as a result proved much more resilient to the disaster.

While the value of both early warning systems and participatory disaster risk planning are common knowledge, the link between them and the benefits of an approach that privileges the development of social and institutional capital and the sharing of important information has perhaps never been demonstrated so clearly. It suggests that programmes of this kind, employing organizations with the participatory experience and skills of the Doaba Foundation and the Help Foundation, should be prioritized and funded accordingly. The evidence of the study further implies that the implementation of such participatory programmes will be most effective when those programmes are stripped of other objectives and targeted solely on the development of early warning systems. This is not to deny the potential of programmes focusing on other aspects of resilience and long-term structural change, but to recognise that they cannot be expected to have significant impacts in the same short timescale and with the same minimal levels of intervention. These are subjects for future research. There is also a need for a systematic review of initiatives similar to the CDRML Programme, asking, for example, what happens to such early warning systems in the long term. The Pakistan study, meanwhile, provides robust evidence that communities can be readily empowered to respond to the threat of flooding, and provides clear pointers to how this can be achieved elsewhere.

NOTES

- ¹ For an introduction to the effectiveness reviews and further information on their methodology and the reviews completed to date see <http://policy-practice.oxfam.org.uk/our-work/methods-approaches/project-effectiveness-reviews> (last accessed August 2013).
- ² See, for example, the Karl Hughes' posts on Duncan Green's From Poverty to Power blog and the responses to them: **K. Hughes** (2011) 'Can we demonstrate effectiveness without bankrupting our NGO and/or becoming a randomista?', <http://www.oxfamblogs.org/fp2p/?p=6719>; **W. Savedoff** (2012) 'Impact evaluations everywhere: what's a small NGO to do?', <http://www.cgdev.org/blog/impact-evaluations-everywhere-what%E2%80%99s-small-ngo-to-do>; **J. Richmond** (2012) 'Tackling the evaluation challenge – how do we know if we're effective?', <http://policy-practice.oxfam.org.uk/blog/2012/10/effectiveness-reviews>; **K. Hughes** (2012a) 'When we (rigorously) measure effectiveness, what do we find? Initial results from an Oxfam experiment', <http://www.oxfamblogs.org/fp2p/?p=12012>; **N. York and K. Hoy** (2012) 'What do DFID wonks think of Oxfam's attempt to measure its effectiveness?', <http://www.oxfamblogs.org/fp2p/?p=12254>; **J. Puri** (2012) 'Getting evaluation right: a five point plan', <http://www.oxfamblogs.org/fp2p/?p=12262> (all last accessed August 2013).
- ³ See, for example, **D.G. Huber and J. Gullede** (2011) 'Extreme Weather and Climate Change: Understanding the Link and Managing the Risk', Arlington, VA: Center for Climate and Energy Solutions, <http://www.c2es.orgwww.c2es.org/docUploads/white-paper-extreme-weather-climate-change-understanding-link-managing-risk.pdf>; **K.E. Trenberth** (2012) 'Framing the way to relate climate extremes to climate change', *Climate Change* 115: 283–290, <http://link.springer.com/content/pdf/10.1007%2Fs10584-012-0441-5.pdf> (both last accessed August 2013).
- ⁴ **L. Davies** (2011) 'Pakistan Floods Progress Report July 2010/July 2011', Oxford: Oxfam GB, <http://oxfamlibrary.openrepository.com/oxfam/bitstream/10546/137665/1/pakistan-progress-report-floods-260711-en.pdf>; **A. Azad and H. McElhinney** (2011) 'Ready or Not: Pakistan's Resilience to Disasters One Year On from the Floods', Oxfam Briefing Paper 150, Oxford: Oxfam GB, <http://oxfamlibrary.openrepository.com/oxfam/bitstream/10546/138689/1/bp150-ready-not-pakistan-resilience-disasters-floods-260711-en.pdf> (both last accessed August 2013).
- ⁵ The summary of the effectiveness review in this and following paragraphs is based on **K. Hughes** (2012b) 'Community-based Disaster Risk Management: Pakistan 2011/12', Project Effectiveness Reviews (snapshots), Oxfam: Oxfam GB, <http://oxfamlibrary.openrepository.com/oxfam/bitstream/10546/247231/1/er-drr-pakistan-effectiveness-review-081012-summ-en.pdf> (last accessed August 2013). The full report is **K. Hughes** (2012c) 'Pakistan's Community-based Disaster Risk Management and Livelihoods Programme – Effectiveness Review: Full Technical Report', Oxford: Oxfam GB, <http://oxfamlibrary.openrepository.com/oxfam/bitstream/10546/247231/3/er-drr-pakistan-effectiveness-review-081012-full-report-en.pdf> (last accessed August 2013).
- ⁶ **M. Abidi-Habib, J. Colvin, and S. Irshad** (2013) 'What Happens When the Peacock Dances: A Follow-up to the Effectiveness Review of the Community-based Disaster Risk Management and Livelihoods Programme in Pakistan' (Parts 1 and 2), report by Emerald Network Ltd. to Oxfam GB, Oxford, Part 1, p. 11.
- ⁷ Snapshot online at <http://oxfamlibrary.openrepository.com/oxfam/bitstream/10546/247231/1/er-drr-pakistan-effectiveness-review-081012-summ-en.pdf> (last accessed October 2013).
- ⁸ **Hughes** (2012c), *op. cit.* p. 3.
- ⁹ **M. Walsh** (2013) 'Qualitative Research and Evaluation: Follow-up to the Effectiveness Review of the Community-based Disaster Risk Management and Livelihoods Programme in Pakistan', Terms of Reference for Research, Oxford: Oxfam GB.
- ¹⁰ **Abidi-Habib et al.** (2013), *op. cit.* Part 1, pp. 20–27.
- ¹¹ **Oxfam International** (2012) 'Community-based Disaster Risk Management and Livelihoods Programme in Drought, Flood and Cyclone-prone Areas of Pakistan (June 2008–June 2012): End of Project Evaluation', report by Avicenna Consulting (Pvt) Ltd. to Oxfam Pakistan, Islamabad.
- ¹² **Abidi-Habib et al.** (2013), *op. cit.* Part 2, p. 13, Figure 3.
- ¹³ Interestingly, the partner organizations noted that the small budget allocated to the programme fostered these partnerships and their reliance on local knowledge and experience.
- ¹⁴ At the same time it is acknowledged that a finer grained analysis might reveal differences between the two organisations in this regard.
- ¹⁵ **Hughes** (2012c), *op. cit.* p. 6.
- ¹⁶ **Hughes** (2012c), *op. cit.* p. 3.
- ¹⁷ The obverse of this is that villagers are more immediately motivated to act to secure their homes and livelihoods against flooding, and this is also likely to have been a factor in motivating their positive response to interventions promoting more effective disaster responses.

- ¹⁸ A similar point is made in the end-of-project evaluation report, **Oxfam International** (2012), *op. cit.*, p. 42.
- ¹⁹ See **Abidi-Habib et al.** (2013), *op. cit.*, Parts 1 and 2.
- ²⁰ See, for example, **Oxfam GB** (2008) 'Evaluation of the River Basin Programme in Bangladesh: Full Report', Oxfam GB Programme Evaluation, Oxford: Oxfam GB, <http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/119434/1/er-final-river-basin-programme-bangladesh-010608-en.pdf> (last accessed October 2013).
- ²¹ Quoted from **M. Turnbull and E. Turvill** (2012) 'Participatory Capacity and Vulnerability Analysis: A practitioner's guide', Oxford: Oxfam GB, <http://policy-practice.oxfam.org.uk/publications/participatory-capacity-and-vulnerability-analysis-a-practitioners-guide-232411> (last accessed October 2013).
- ²² **D. Hillier and G.E. Castillo** (2013) 'No Accident: Resilience and the Inequality of Risk', Oxfam Briefing Paper, Oxford: Oxfam International <http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/292353/1/bp172-no-accident-resilience-inequality-of-risk-210513-en.pdf> (last accessed October 2013).
- ²³ For the need for a gendered approach to risk reduction and resilience-building see **M. Navy, Y. Widjaja, H. Carr, P. Kyaw, and L.T.M. Dung** (2012) 'Promoting Gender Equality in Disaster Risk Reduction: Oxfam's Experiences in Southeast Asia', Oxford: Oxfam GB, <http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/247717/1/cs-promoting-gender-equality-in-drr-010512-en.pdf>; **V.M Hai and I. Smyth** (2012) 'The Disaster Crunch Model: Guidelines for a Gendered Approach', Oxford: Oxfam GB, <http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/247511/4/the-disaster-crunch-model-010512-en.pdf>; **I. Smyth** (2012) 'Gender-sensitive Response and Recovery: An Overview', Gender Equality in Emergencies, Oxford: Oxfam GB, <http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/247191/1/cs-gender-sensitive-response-intro-081012-en.pdf>; **D. Jeffrey** (2012) 'Restoring Livelihoods After Floods: Gender-sensitive Response and Community-owned Recovery in Pakistan', Gender Equality in Emergencies, Oxford: Oxfam GB, <http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/247192/1/cs-restoring-livelihoods-after-floods-081012-en.pdf>; **D. Hillier and G.E. Castillo** (2013) *op.cit.* (all last accessed August 2013).

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