

DEVELOPING BUILDING FOR SAFETY PROGRAMMES

Guidelines for Organizing Safe Building Improvement
Programmes in Disaster-prone Areas

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Initiatives for safer housing in Jamaica – an overview

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Introduction

In September 1988, Hurricane Gilbert swept over the Caribbean and the Gulf coast of Mexico, leaving havoc and destruction in its wake. The hurricane destroyed or damaged almost fifty-five per cent of Jamaica's housing stock. Fourteen thousand individual houses and entire housing schemes in urban areas were totally destroyed as roofs were torn off and walls collapsed in the storm.

Approximately 500 000 people, many of them among Jamaica's poorest, were left homeless, either with severely damaged houses or without any housing at all. The almost complete loss of house contents compounded the economic devastation for many thousands of people.

What immediately became apparent was the extraordinary vulnerability to high winds of much of Jamaica's housing stock. Many of the virtually new government housing schemes suffered anywhere from eighty to one hundred per cent roof loss. Private individual dwellings in many areas suffered similar fates.

These facts, however, should not lead necessarily to the conclusion that the housing mitigation policy initiatives of the early 1980s had failed. Gilbert did not reveal a failed policy so much as a policy not yet completely evolved or implemented. It must be stressed that development of the housing safety policy was proceeding throughout the 1980s and that Gilbert, as disasters often do, gave new impetus to activities already underway.

The widespread destruction left by Hurricane Gilbert heightened appreciation in the primary training institutions of the need for disaster resistant construction. The new, post-Gilbert PNP administration has set up a National Training Agency (NTA) whose

job is to develop standard syllabuses for all training and to co-ordinate training and certification.

Although standards are set out quite adequately in the building codes, Hurricane Gilbert demonstrated that there was actually little attention paid to hurricane-resistant construction features and minimal compliance with code requirements. The fact that Jamaica had not suffered a serious hurricane since 1951 is also frequently mentioned as a reason for the lack of compliance.

Adherence to safety codes both in developed and underdeveloped nations tends to diminish with time following a disaster. Gilbert has provided a convincing argument for institutionalizing training in this regard. The NTA is presently working with Construction Resource and Development Centre (CRDC) to develop a disaster mitigation syllabus for their building trades training programme. Similar materials are expected to be integrated into the curriculum at the new Caribbean School of Architecture at CAST.

Currently, a need is perceived to improve and update disaster construction training materials. In the aftermath of Gilbert, a variety of materials relevant to non-engineered housing were available, among them the Office of Disaster Preparedness (ODP)/INTERTECT Jack Hammer series, the CRDC *Hurricanes and Houses: safety tips for building a board house* (the pink book), and a Jamaican Institute of Architects (JIA)-sponsored booklet entitled *Build it Right*. Dissemination of these materials, however, seems to have been quite uneven and Hurricane Gilbert highlighted the problems in both the exchange of appropriate information between agencies and its dissemination within an agency or company.

Two training approaches taken by NGOs

Hurricane Gilbert provided both the opportunity and the necessity for further development of the safe housing initiative in Jamaica. Disasters frequently accelerate changes which are already underway in a society and such a tendency may be equally visible in the realm of policy development, particularly as it relates to hazards and public safety.

There was little question after the hurricane that Jamaica's housing stock was extremely vulnerable. Since sixty-five per cent falls within the category of informal construction, there is also little question concerning the ability of the government to supply housing to all who need it regardless of hurricane damage and loss. Thus, the post-Gilbert reconstruction period provided a context in which varying models of technology and information transfer about hurricane-resistant housing could be implemented and implicitly tested.

Two major NGO programmes were implemented in the aftermath of the disaster aimed at improving the performance of low-income, non-formal housing. Each carried a fundamentally different conceptualization of information transfer and community development. In essence, these two conceptualizations or models of information transfer might be termed the 'normative' model and the 'capacitation' model. Each project began within a month to six weeks following Hurricane Gilbert.

At several points, efforts have been made to mesh the two approaches or to link their efforts. While these projects are categorized as normative and capacitative respectively, it must be noted that both aim at capacitation. One is grounded in the belief that saturation of a community can result in safer housing techniques becoming standard building practice, while the other focuses on developing social and economic mechanisms that will facilitate making the choice for safer housing.

● *The normative model.* The normative approach was evident in the programmes implemented

by CRDC. These programmes have focused on training/skills upgrading, promotion, micro-enterprise development, homeowner investment, and so on, within a 'saturation' framework, having quantifiable objectives and a limited time period. A case study by the director of CRDC on one of their builders' training programmes is presented below.

● *The capacitation model.* The capacitation model for housing education and mitigation is largely the product of the Association of Development Agencies (ADA). ADA serves as an umbrella organization for its 18 members, most of which are Jamaican social service and development organizations. ADA itself has no field staff, but works to co-ordinate the projects and goals of its member agencies.

ADA also conducts research and analysis of the work of its affiliates, identifying common issues and strong and weak points in their work. ADA sees its basic mission as community development and empowerment, emphasizing the overall social development process.

The focus is on developing community approaches to problems which will not only bring substantial material improvement to people's lives, but will lead to greater participation, empowerment and capacitation of the population as a whole.

Currently, both the normative approach of CRDC and the capacitation approach of ADA to housing safety are being employed in Jamaica. Indeed, in a number of different contexts attempts are being made to combine the approaches, assigning different functions or roles to the institutions associated with each model. However, CRDC's perception is that ADA is very absorbed in questions of community and process and, for that reason, is very slow and methodical.

ADA feels that CRDC works much too fast and, therefore, the level of acceptance in communities is low; more time is needed to explain and motivate the communities. Features of their contractual obligations thus have acted to constrain rather than facilitate what might have been a healthy integration of the two approaches.

Sustainability issues

● *Links through time.* Initially, there appeared to be few direct links between efforts to achieve safer housing in the early 1980s and activities stimulated by the devastation of Hurricane Gilbert. Awareness of the existence of written materials illustrating simple low-cost methods to strengthen houses is not widespread within either governmental or non-governmental organizations, due to one or a combination of the following circumstances:

- Lack of institutional memory
- failure to disseminate data within organizations, and
- lack of interest.

● *Replication.* After Hurricane Hugo swept across the Caribbean in September, 1989, both ADA and CRDC, with an architect from Dominica, responded with shelter clinic and builder training initiatives on other islands. The builder training brought together tradespeople who had never been formally trained and who had little contact with other builders, and the sessions resulted in good communication and exchange.

● *Formal institutionalization.* In the early 1980s, efforts were made to draw in all the organizations and groups involved in the formal and non-formal housing sectors. Most of the workshops were attended by administrators who expressed interest but relied on ODP to act as the lead agency; thus their respective interests never translated into implementation, particularly when funding grew scarce. So long as protective construction techniques were seen as disaster-related rather than simply a matter of proper construction, ODP would be allocated this responsibility.

Hindsight shows that ODP lost effectiveness as the prime mover for mitigation for a number of reasons. ODP was shifted from ministry to ministry and never achieved sufficient organizational clout to transfer the programme to the Ministry of Construction (housing) or other competent agency. Not only did the lack of statutory identity weaken its efforts, but also the overall lack of political will and commit-

ment to mitigation goals.

One former ODP official believes strongly that, had ODP instituted a regular series of seminars for elected public officials, this might have resulted in some political commitment to the programme. As it was, people continued to rely on ODP to find external funding for mitigation and preparedness projects, without understanding that ODP was neither a proper nor an effective agent for change with regard to the normal housing process.

To date, national objectives for housing mitigation have not been incorporated in the current five-year development plan, vocational training schools do not teach strengthening methods as a part of their regular curriculum, and such informal community efforts as the shelter clinics and one-day builder training programs have not been picked up by other permanent organizations when post-hurricane project funding ceased.

On the other hand, there are positive moves underway to include disaster-resistant construction techniques in formal construction curricula, and at least two NGOs continue to promote housing upgrading through a repair/retrofit programme and a revolving loan scheme.

● *Financial resources.* A major indicator that the strategy is not yet sustainable is the fact that, through the years, its existence has been almost completely tied to the availability of external funding. So long as outside dollars would support it, the commitment was there.

A key lesson for this study is that commitment must be to the concept of protection, not to the money a project may attract or the costs it may incur.

Particularly at a time when the global economy is struggling and many countries must devote a large proportion of their funds to debt service, any initiative that depends on project-based or line item financing is highly expendable.

Too close a linkage of mitigation with cost also results in stifling initiative and the search for alternative solutions that are viable in a low-income environment. Mitigation must be sold to the public at large and to both the government and private sector as good construction practice – not something extra requiring additional funds.

Both the ADA and CRDC housing projects use outside funding for start-up costs, but a key element of their work is resident investment in affordable protection. One architect suggested that Jamaicans had become accustomed to being given things without having to provide security or collateral, so there was a lot of resistance to the ADA loan scheme in several communities. A great deal of groundwork is necessary within the communities to counteract years of erosion in self-reliance and personal responsibility.

There are many instances, on the other hand, where rural and semi-urban residents used their own savings and whatever other resources they could draw on to rebuild and repair, rather than wait for the government to get its assistance programs organized.

One resource that played a major part in individual recovery after Hurricane Gilbert was money from the Jamaican community abroad; this may also be a source fuelling the renovations, additions and new construction visible throughout the island.

Conclusions

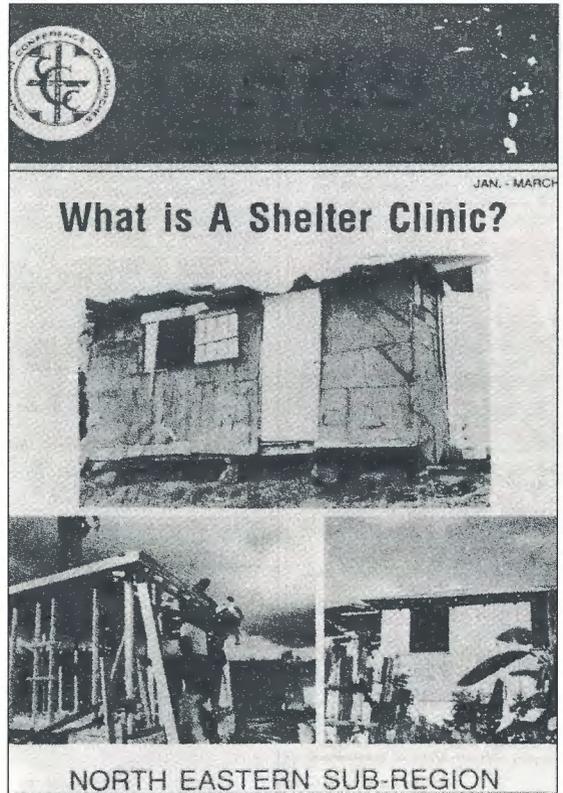
In many respects, Jamaica has made significant progress toward the establishment and institutionalization of rational housing safety and disaster mitigation policies. The fact that such major damage to the housing stock occurred during Hurricane Gilbert was not the result of a failed policy initiative so much as an incomplete one. More to the point, what is indicated is that implementing such a policy is a protracted process, involving not only technological inputs, but also economic improvement, institutional evolution and cultural change affecting long-standing practice.

Change in such a complex constellation of interrelated variables requires time. The process of such change, as this report has demonstrated, was underway throughout the 1980s and is manifested in the application of programmes now in the 1990s. Notwithstanding these positive signs, many obstacles still exist and much remains to be done before an effective and sustainable policy will be in place.

With such a large proportion of the housing falling within the informal sector, recent programmes attempting to reach builders at the local level seem particularly appropriate. Furthermore, these programs are consistent with both government economic and social policy.

The government has emphasized economic strategies that assume a greater role in financing home construction but return actual housing construction to the private sector. In addition, efforts on a variety of fronts, including local initiative, are being made to build on the tradition of community activism and self-reliance.

Due to the structure of the island plantation economy which made slaves responsible for their own subsistence while they laboured in the cane fields, the Jamaican people had developed a tradition of self-reliance. This tradition flowered in the aftermath of emancipation as people left the plantations for the hinterland and established self-reliant



communities of ex-slaves. At least in the housing context, the self-reliant tradition has been eroded by government policies.

The party in power in 1992 originally drew much of its strength from the concept of mobilizing communities and there is a realization that the party would do well to reawaken this historical tradition. There is an emerging movement toward empowerment at the community level, revitalizing traditional community structures such as the village councils which served as the institutional basis for much communal action.

A clear manifestation of this tradition was the desire by community members to rebuild their schools after Hurricane Gilbert. Many communities organized work groups to repair their schools, but were told to halt their efforts because contracts for school repair had already been awarded to construction companies by the government.

Present NGO efforts to implement housing safety and hazard mitigation appear to be consistent with both this grassroots orientation and the informal sector predominance in housing construction. Two fundamental problems are replication and measurement. For either or both of these programmes to have any significant impact on regional or national levels, they must be replicated. At present levels of activity, only a small number of people will receive the benefits of these programmes. A broader regional and ultimately national (including urban) implementation strategy for either one or both of these programmes is necessary if sufficient beneficiaries are to be reached.

Before that goal can be attained, these programmes must be supported by an institutional base with the power to mobilize resources and action on their behalf.

Moreover, certain basic criteria need to be established to assess the success or failure of these projects. Given that they employ different methods and, in some respects, have different goals, establishing such criteria may prove complex. For the normative model, it should not be difficult to establish the number of houses retrofitted over a set period of time. On the other hand, whether the project actually

establishes mitigation and safe building techniques as the norm for construction in a community can only be ascertained through long term follow-up studies.

For the capacitation model, which emphasizes community organization and empowerment over actual construction work, results will perhaps be sporadically evident earlier but overall success will also require an extended period of time for accurate assessment.

There are indications that NGOs and the churches are now taking on part of the role formerly played by the government in housing. So long as these organizations work toward empowerment and self-reliance rather than excessive dependence on their skills and services, both the NGOs and the churches may serve important brokering or ombudsman functions for furthering mitigation strategies at the local level.

Institutional support at national and international levels is also crucial for the success of these programmes. As the specialist agency for disaster-related matters, ODP can play a pivotal role in providing information, promoting general awareness of the impact of disaster events and keeping these concerns on the agenda of line ministries and private organizations. But ODP is not at the present time constituted in such a way as to provide the kind of institutional direction and energy which a housing mitigation strategy requires. National implementation will require the allocation of a relevant ministry with overall responsibility for overseeing and facilitating mitigation initiatives within normal housing projects.

At the international level, declaration of the International Decade for Natural Disaster Reduction has not immediately made available significant support for specific mitigation efforts. In the case of the USA, lack of clear and consistent support for the OFDA Prevention-Mitigation-Preparedness (PMP) strategy sends mixed signals to countries otherwise ripe for investment in large-scale housing safety programmes.

While international institutional support and backstopping for mitigation programmes remain stalled, personnel and such material

resources as have been delegated to mitigation tasks are operating at the basically experimental levels described in this report or they are 'on hold'. This is particularly true in the case of personnel who find themselves delegated to other tasks for lack of resources to carry out their missions in the mitigation field.

The expertise and the minimum executive and implementation personnel for a successful national programme of housing safety and disaster mitigation exist in Jamaica. Training programmes in both formal and informal sectors, although experimental and small-scale, represent positive steps toward implementation. Beyond the acute economic difficulties in the nation right now, serious obstacles to

nationwide application of such a programme also exist in the form of a lack of institutional direction and inconsistent international support.

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