Fact sheet

Construction of Safer Housing and Infrastructure

Schweizerische Eidgenossenschaft
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Cooperación Suiza en América Central

Although in some countries threats of earthquakes, volcanic eruptions or hurricanes are common, public and private infrastructure, as well as urban development works don't always take into account Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) in design, planning and actual construction. For this reason, when disasters occur, these often cause serious damage to vital infrastructure.

This could be reduced by designing, respecting and applying adequate standards to the construction of safer housing and infrastructure that incorporate a risk analysis, as well as DRR and CCA measures. It is also necessary to regulate the construction of informal housing and strengthen capacity among technical personnel and foremen.

A mason receiving theoretical-practical training on the building of safe housing in Nicaragua. © National Engineering University (UNI)

How does the process begin?

In the cases of public investment projects, the point of departure is the identification of projects that require the integration of DRR and CCA. Once this was determined, three stages followed:

Stage 1
Diagnostic of capacities and resources (1 year)

This allowed for identifying specific needs, the existing legal frameworks, standards, maps and studies, as well as the competent human resources in each country.

What is indispensable?

- Coordinate and reach agreement with the different public investment entities in each country.
- Undertake a diagnostic and approve strategies, approaches and main activities needed to ensure the sustainable integration of DRR and CCA to the public investment project cycle.

Stage 2
Development and validation of methodology, instruments and technical capacities in DRR and CCA (2 to 3 years)

We prepared and updated technical instruments, ensuring that public investment projects included both risk and cost-benefit analyses of DRR. Training in their application was provided.

What is indispensable?

- Prepare and approve a training plan.
- Hold classes, diploma courses or master's programmes keyed to developing competencies in the use and application of DRR and CCA instruments.
- Prepare and update methodological guides and manuals for prioritised sectors, such as for example, road infrastructure, water and sanitation, housing, etc.
- Prepare geographic information platforms in each country, in support of risk analysis.
- Pilot the technical DRR and CCA instruments.

Stage 3
Institutionalisation and application (permanent)

We encouraged the institutionalisation of processes and instruments, and accompanied their implementation.

What is indispensable?

- Carry out information and dissemination campaigns regarding the approved instruments, aimed at transferring knowledge to all sectoral entities and universities, among others, for the purpose of promoting their massive application.
- Monitor and supervise the quality of the implementation of the approved instruments and introduce corrective mechanisms.

What resources are needed? A project coordinator and a team of professionals in a number of specialities, depending on what sector the work is to be undertaken in. If these are related to road infrastructure, water, sanitation, and housing, specialised personnel is needed in fields such as civil engineering, hydrology, geology, economy and agronomy, as well as experts in geological risks and climate change. Whenever necessary, legal advisory services may also be considered.

Who is responsible for implementation? Institutions governing national or regional public investment, specialised UN agencies and universities.

How to build successfully?

1. Respect established safe construction standards that incorporate a risk analysis and DRR and CCA measures.
2. Put into practice the methodological guides and manuals for prioritised sector such as road infrastructure, water, sanitation and housing.
3. Provide training on urban development, safe construction, cost-benefit analysis, the design of hydraulic works, among others.
4. Regulate the informal construction of housing and strengthen capacities among technical staff and foremen.

More resilient public investments ...

> “Today, in these times, more than ever before, we have better conditions and capacities to understand public investment cycles in a more comprehensive manner … In this evolving process … we have begun to think of how climate change increases the risk to public investment infrastructure”.

Roger Vega, main advisor to the RIDASICC programme, Nicaragua

Information and contacts

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www.shareweb.ch/site/disasterriskreduction/

www.weadapt.org/knowledge-base/sdc-network-climate-drr-and-environment

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