

Special Topics

4 - Direct and Indirect Economic Impact

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The ways national economic systems are organised play a central role in determining disaster risk by shaping their exposures and vulnerabilities; economic systems are then, in turn, significantly affected when disasters strike. The well-being of people and communities, while determined by many factors, is intimately linked with the economic functioning and economic health of the community and region in which they live. Most importantly, well-being is a function of the capabilities to pursue meaningful lives, capabilities that are, among others, directly influenced by the access to gainful employment and meaningful livelihood, and the access to the requisite incomes, health and education services, and other resources necessary to pursue satisfying lives. It is these capabilities that are potentially diminished by disasters.

Long-term losses

Not only direct losses matter in the assessment of risk to well-being. When disasters hit, damages are experienced in terms of mortality and morbidity, as well as damages to assets, infrastructure and the environment. The long-term access to employment and education opportunities and resources that determine well-being (e.g., health) can also be potentially diminished by disasters; and this access can also be diminished in the long-term. This distinction is especially important for poorer households, who do not have many assets to lose (if at all), but do typically experience more, health and education setbacks, employment challenges and consequently reduced income, and other hindrances as a result of disasters. The measurement of disaster risk therefore necessarily involves understanding the exposure and vulnerability of economic systems to the shocks but also their ability to rebound and recover from them (their resilience) and the longer term losses associated with their occurrence.

The assessment of risks to socio-economic well-being at the national level involves both a sectoral and geographical assessment of vulnerabilities, and additional assessment of linkages, availability of financial and non-financial resources for recovery, and likely recovery trajectories and pitfalls.

Unique vulnerabilities

An assessment of unique sectoral vulnerabilities, and the interactions between the exposure of these sectors and their vulnerabilities to specific hazards, is necessary. One needs to understand how much the sectors operating in one region, for example, are exposed to a specific hazard, and how these exposed/vulnerable sectors in the affected region interact with other regions and their economic activities, thereby creating more systemic (inter-regional) risks. Regional and local economies are often dominated by a few sectors, and some sectors are much more vulnerable to specific types of hazards than others. Agriculture can be directly very vulnerable to some hazards (e.g. extreme temperatures) but less, and only indirectly, to others (e.g.,

earthquakes) because of their impact on transportation and processing facilities. Manufacturing is directly vulnerable to hazards that destroy production and storage facilities, and the required infrastructure such as electricity networks, and tourism is uniquely vulnerable to hazards that affect perceptions of safety (or lack thereof) as these are represented in the mass media. As such, any national risk assessment needs to identify the specific vulnerabilities of the main sectors and those risks facing large firms/employers in each region being assessed.

Of specific concern is the increased vulnerabilities faced by some populations. This is especially a concern for groups that face obstacles even during the best of times, such as those with lower income and assets, minority ethnic and religious groups, the disabled and other marginalised groups. Each of these demographics, further distinguished by gender, is vulnerable in unique ways, and accounting for these is important if one is to understand the likely impact of disaster risk on the well-being.

Spill-overs and ripple effects

An assessment of unique regional economic vulnerabilities should also examine the links between regions, and how impacts in one region may spill over to other regions. Spill-overs are especially likely if the sectors that are dominant involve longer supply chains, and these supply chains have bottlenecks or lack sufficient redundancies to make them more robust to temporary cuts in some links in the chain.

Lifeline infrastructures (water, electricity, transportation, communication), beyond their direct effect on well-being, are especially important for the economy to function well. Even if no direct damage to the population is experienced, the economy, and therefore employment, will ground to a halt without lifelines. As such, vulnerabilities in lifelines are amplifiers for other vulnerabilities and their role should be emphasized in risk assessment. One should assess how long it would take to re-establish lifeline connections in the aftermath of a disaster, and how one can eliminate or reduce that period of disconnection.

Financial constraint to reconstruction

Beyond lifelines, the main constraint for recovery in most places is financial. Risk assessment therefore also needs to consider a realistic assessment of the amount of resources that might be available during the prolonged recovery phase, and how one can plan for additional resources should a resource gap be identified. Given constraints around resources, pre-disaster planning for recovery should also assess the opportunities to use the resources that are available most effectively.

Financial resources are only some of the inputs needed for recovery, but they have a significant impact on recovery trajectories as the inflow of timely financial resources to affected sectors, households and the governments contribute to reducing the medium- and long-term consequences of disasters. There are many financial resources-formal and informal- to be employed (such as savings, credit, and assistance). Pre-event arrangements (risk financing) are generally preferable as they guarantee their timely inflow. Many countries have set-up national and regional catastrophe funds, and generally some sort of market-based insurance, albeit at varying levels of coverage and public sector involvement. Any comprehensive assessment on financial risk options should include an assessment of who bears and transfers what financial risks, and where these financial risks ultimately reside (domestically and offshore). Options for risk financing to consider should also include

agreements with multilateral organisations to provide financial support should an event occur (e.g. contingent credit programs) or an assessment of the amount of official development assistance that will likely be received.

Other constraints to the reconstruction

The ability to access international assets, resources and knowledge—other than financial—is equally important. For the emergency phase, that will involve an assessment of the kinds of assets that could be required (e.g. transportation modes for evacuations), where they are located, and how they can be made accessible. This should also include an assessment of early warning systems as these can also be used to move economic assets out of harms way. For very catastrophic events, resource constraints—other than financial—may also be hindering a successful recovery (e.g., skilled labour for the construction sector)

The capacity of government to mobilize and organize resources, from whatever source, in a disaster's aftermath—is crucial to assess. Governance and institutional capacity play a significant part in the ability of the economy to recover. Where applicable, a government should also assess its own preparedness and ability to mobilize even if in cases when some of its own assets get damaged and its employees get injured in a disaster event.

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