

Chapter 9

Livelihoods and DRR

9.1 Introduction

Poor and vulnerable people face a number of risks in their everyday lives, and their livelihoods are unlikely to be sustainable unless they can cope with the different shocks that affect them. Shocks are generally grouped into two kinds: household-level shocks, such as illness, injury and unemployment (in technical language, these are called ‘idiosyncratic’ shocks) and community-level shocks, such as disasters, epidemics and conflicts (‘covariate’ shocks). Both types can have sudden or severe impacts on individual households’ incomes, consumption and resources, as well as household members’ wellbeing.

Possession of assets (or capital) gives households a wider range of options and livelihood opportunities in times of crisis, and it can speed their recovery from some kinds of hazard event (although the most extreme events may be highly destructive). These assets/capital may be of many kinds: human (e.g. skills, knowledge, ability to labour, good health); physical (e.g. livestock, transport, tools and equipment, shelter, water supplies and sanitation); natural (e.g. possession of land, forests, marine/wild resources, water resources); financial (e.g. income and savings, earnings, credit, remittances); human (e.g. skills and education); social (e.g. networks and connections, membership of groups, relationships of trust, reciprocity and exchange); and political (e.g. connections to power structures, political systems and governmental processes). However, even a relatively mild shock or stress can have a severe impact on chronically vulnerable households: for example, irregular or unexpected rainfall at a key stage in the crop growing cycle, which ruins the harvest. Vulnerable households have little or no capacity to absorb losses of assets and income or to recover from them, driving them further into poverty and vulnerability.

The natural environment provides resources and livelihood opportunities, as well as presenting risks. Hazardous locations may be used for farming, grazing and extraction of natural resources such as timber and minerals. Volcanic soils, for example, tend to be very fertile, as are the alluvial soils of flood plains; space for workshops and factories is likely to be cheaper in flood-prone locations. The most marginal groups in society are generally forced to accept the greatest risks in seeking to make a living on unproductive or risk-prone land. Their choices are restricted by the socio-economic systems they live under, particularly with regard to land tenure and distribution. Lack of land rights and titles inhibits household investment in risk reduction measures and reduces economic opportunities.

This chapter looks at ways of protecting and supporting livelihoods through DRR. It should be read alongside chapters 7 (Indigenous knowledge and coping strategies), 12 (Financial mechanisms and services for risk reduction) and 14 (Drought, food security and famine), which cover other important aspects of making livelihoods more resilient and sustainable.

Livelihoods are constantly having to adapt to a wide variety of factors, including costs, prices, supply and demand and the availability of natural resources, materials, labour and credit, as well as environmental conditions and access to markets. Livelihood opportunities are also influenced by status, gender, education, technical skills and social networks. Poor households adopt carefully calculated financial management strategies to maximise their use of resources and mitigate their exposure to risks.¹ Government agencies and other institutions provide the policy and enabling environment that can support or constrain livelihood development and wealth creation.

9.2 Disaster risk reduction and livelihoods

Thinking about poverty, sustainable development, vulnerability, social protection and livelihoods has increasingly converged in recent years. The links between livelihoods, vulnerability and DRR are well understood by many agencies, who recognise that strengthening livelihoods contributes to reducing vulnerability and poverty. The ideal is a virtuous circle, in which vulnerability reduction and livelihood promotion reinforce each other to generate resilient livelihoods, where households can anticipate and plan for changes of different kinds and adapt to them. Interventions should build on existing coping and livelihood strategies, where these have been shown to be effective.

Some strategies may be no more than enforced or short-term responses to poverty or external stresses. These may do little or nothing to reduce poverty in the longer term. For example, farmers without secure land tenure will not invest in land improvement, and children of poor families may have to go out to work instead of acquiring an education and skills in school. Strategies can also increase risk: for example, land degradation and rapid water run-off due to overgrazing or felling of timber, resulting in reduced yields of food crops or flash floods and landslides.

Livelihood support is an important component of many agencies' DRR work, but it requires expertise in a wide range of relevant areas. These include agriculture, environmental management, health, food security, nutrition, finance, marketing, education and training, infrastructure provision, community mobilisation, organisational development and advocacy. Individual

¹ D. Collins et al., *Portfolios of the Poor: How the World's Poor Live on \$2 a Day* (Princeton, NJ: Princeton University Press, 2009).

agencies working on DRR are unlikely to possess the full range of skills required, which means that partnerships between different organisations are essential.

Interventions to sustain and protect livelihoods can take place at any stage in the disaster cycle. Long-term livelihood strengthening can be part of pre-disaster mitigation strategies, integrated into development work. Shorter-term disaster preparedness initiatives can include steps to protect material assets or move them to safety as part of contingency planning. When a disaster strikes, emergency relief can be used to maintain livelihood activities – for example, by providing seeds or tools that have been lost to the disaster – in addition to supplying essential assets such as food, water or shelter. Livelihood support enables longer-term rehabilitation and recovery from disasters to proceed more rapidly, and humanitarian agencies are increasingly involved in this kind of work (see Chapter 17: Risk reduction after disaster).

Box 9.1 Livelihoods analysis in DRR planning

Livelihoods analysis should be used in planning projects to identify groups whose livelihoods are most vulnerable and who are least able to cope with and recover from disasters. The analysis can be carried out using participatory information-gathering tools and secondary data. Questions to ask about livelihoods include:

- What are the principal livelihood groups within the community, and which of these groups are socio-economically vulnerable or unable to cope and recover when a particular hazard or stress occurs? Are there particularly vulnerable people within livelihood groups (e.g. women or people with disabilities might be a vulnerable group across a range of occupations)?
- What coping strategies do people use when they are affected by hazards or stresses (particularly the most vulnerable livelihood groups)? How sustainable are they?
- What are the key constraints and opportunities faced by each vulnerable livelihood group (e.g. organisational capacity, access to productive resources, skills, technologies and markets, secure living conditions)?
- Are their livelihoods affected by particular hazards, climate change or other long-term trends?
- What are the gaps and opportunities in relation to external institutions which affect their livelihoods (e.g. technical and financial services, social safety nets)?

Adapted from K. Pasteur, *From Vulnerability to Resilience: A Framework for Analysis and Action To Build Community Resilience* (Rugby: Practical Action Publishing, 2011), <http://practicalaction.org/from-vulnerability-to-resilience-framework-v2r>, pp. 76–77.

In principle, sustainable livelihoods approaches (see Section 9.4 below) reduce vulnerability, but there is still a need for careful planning about the choice and combination of livelihood practices to promote. Such planning should take into account the characteristics of household assets and their vulnerability, the economic viability of interventions, the material and other resources required, the potential social impacts and the level of institutional support that can be expected. As with all programming, better understanding of the local context (particularly markets, coping methods, social exclusion and power relationships) should be prioritised.

9.3 Types of intervention

DRR work with livelihoods is sometimes divided into three main areas of intervention: livelihood protection, livelihood promotion and livelihood recovery. There is also growing interest in what has been called livelihood ‘transformation’, which means changing social relations by challenging the policies, legislation, institutions, social practices and cultural attitudes that keep people vulnerable and restrict their livelihood opportunities.

Livelihood protection seeks to reinforce existing household coping and livelihood management strategies. It often focuses on conventional initiatives, such as hazard mitigation and disaster preparedness, but it can also comprise other support, such as food or cash transfers, providing seeds and tools and public works programmes. Typical physical measures include embankments to protect land, houses, grain stores and workshops from river flooding, and improved land use, slope stabilisation and forest management to reduce the threat of flash floods and landslides. Since many poor people’s livelihoods are home-based, improving domestic buildings and homesteads can also strengthen physical and economic resilience. Early warning systems give households time to move or defend their assets, as well as evacuate themselves. In the case of regular hazards such as seasonal floods, poor people often have well-established methods for protecting material assets. Ideally livelihood assets should not be too concentrated geographically, to reduce the risk of everything being destroyed by a single hazard event. This is often impossible for individual households, but the dispersal of key assets may be feasible in community-level projects.

While it is usually true that possession of assets automatically reduces vulnerability, this is not always the case. For example, if a household takes out a loan to set up a small income-generating enterprise, this may increase its earnings and enable it to acquire other assets that will make it more resilient. However, if that enterprise and its assets (such as buildings, equipment and raw materials) are in a hazard-prone location or not protected adequately, and as a result are destroyed by a hazard event, the household could find itself in a worse position than if it had not set the business up because it would still have to pay off the loans it had taken out. Valuable livelihood assets may also be seized or stolen: for instance, there is a history of cattle raiding in parts of East Africa.

Livelihood promotion is a developmental approach aimed at building adaptive capacity. It is less hazard-focused than livelihood protection and more likely to address risks in the broad sense, and to build household and community capacities that deliver multiple benefits. Evidence from DRR projects suggests that there is no standard approach to livelihood promotion – it has to fit local contexts and needs – but it tends to concentrate on improving existing livelihood practices and diversification into new areas of economic activity. This might include skills and vocational training, providing technical support and information, improving access to markets and services and supporting local institutions. Much of the livelihood programming in DRR to date has been in rural communities, with an emphasis on promoting off-farm activities to reduce dependence on agriculture, together with better management of crops, livestock and natural resources such as water and forests. Financial support through savings and credit schemes, micro-finance and micro-insurance (see Chapter 12) also has an important role to play in livelihood promotion.

Case Study 9.1 Beekeeping and DRR

A beekeeping project begun in 2007 with villages in Nawalparasi District, Nepal, sought to boost household earnings and discourage families from engaging in environmentally damaging slash and burn farming activities that had removed ground cover, causing slope instability, erosion and rapid water run-off, increasing the risk of landslides. Some households kept bees to make honey for sale, but traditional methods, using hollow logs as hives, were not very productive, the quality of the honey was poor and it did not keep for long.

The project organised group meetings to explain the benefits of improved beekeeping in terms of earnings, agriculture and the environment. Training courses in beekeeping techniques were arranged for farmers who showed interest. The project provided funding towards the cost of improved hives, which produced considerably more honey than traditional ones, and of much higher quality, which led to a growth in demand. Farmers earned more than twice as much for their honey as they had in the past. All the trainees received follow-up technical support and a beekeeping group was formed. Higher earnings from improved beekeeping methods, together with environmental awareness-raising meetings organised by the project, led families to turn away from slash and burn agriculture.

D. Bhandari and Y. Malakar, *Strengthening Livelihood Capacities to [sic] Disaster Risk Reduction in Nepal: Compilation of Change Studies* (Kathmandu: Practical Action Nepal, 2011), <http://practicalaction.org/strengthening-livelihood-capacities-to-disaster-risk-reduction>, pp. 36–41.

Livelihood diversification plays a key role in promoting economic resilience and reducing vulnerability. Households diversify as a deliberate strategy. Individual household members often perform several different livelihood activities (e.g. farming, labouring and trading); farmers plant a variety of crops with different tolerances to weather extremes, to improve their chances of being able to produce some food for consumption and sale; smallholders who farm their own land will often work for pay on someone else's land some distance away, in the expectation that a hazard event will only affect one of these locations. In many societies there are customary arrangements for sharing labour. However, diversification can also be a sign of desperation and poverty. Households may concentrate deliberately on a range of lower-risk activities, but this can mean that their production and financial returns are also relatively low. Faced with acute problems and scarcity, they may be forced to adopt damaging coping strategies, such as overgrazing and deforestation.

Case Study 9.2 Livestock, livelihoods and disasters

Livestock plays a significant role in the livelihoods of farmers and herders around the world. Loss of livestock due to hazard events damages or undermines the livelihoods of farmers and herders. Drought can be particularly devastating: the 1999–2001 drought in Kenya is estimated to have killed more than two million sheep and goats, 900,000 cattle and 14,000 camels.

The Livestock Emergency Guidelines and Standards (LEGS) project is a response to the need to protect this valuable livelihoods asset. LEGS seeks to integrate developmental, livelihoods approaches into disaster planning, response and recovery, and so break through the boundaries that traditionally separate relief and development programming. The LEGS Handbook, a companion volume to the Sphere handbook,² focuses on protecting and rebuilding livestock assets during and after disasters. Based on best practice, it contains participatory tools and guidance on technical interventions to support livestock-keepers affected by crisis, including the provision of veterinary services, animal feed, water, shelter and restocking, all of which can and in most cases should be linked to longer-term development and resilience-building programmes.

Livestock Emergency Guidelines and Standards (Rugby: LEGS & Practical Action Publishing, 2014), <http://www.livestock-emergency.net/news/legs-handbook-2nd-edition-2>; *LEGS and Resilience: Linking Livestock, Livelihoods and Drought Management in the Horn of Africa*, <http://www.livestock-emergency.net/wp-content/uploads/2012/01/LEGS-and-Resilience-Discussion-Paper-final2.pdf>, 2012.

² See <http://www.sphereproject.org/handbook>.

After a disaster, restoring livelihoods and earning income quickly is a priority for poor people. During a damaging crisis, it may be necessary to give direct material support (livelihoods provisioning) by supplying food, water and shelter to meet urgent needs, together with essential livelihood assets such as seeds, tools, fertiliser and livestock to replace losses. Increasingly, cash transfers are used to enable disaster-affected people to make their own choices about what they need to rebuild their livelihoods, and remittances from family members can play an important role in stimulating self-recovery.

9.4 Sustainable livelihoods approaches

A livelihood is regarded as sustainable when it can cope with, and recover from, external shocks and stresses, and maintain or expand its asset base. Successful livelihood strategies should lead to a variety of economic and non-economic benefits, including greater income and more economically sustainable livelihoods; increased well-being (comprising non-material elements, such as self-esteem, sense of control and inclusion, personal safety, community participation and political enfranchisement and maintenance of cultural heritage); better access to services such as health, water, power and education; reduced vulnerability to external trends, shocks and seasonality; improved nutrition and food security; and more sustainable use of natural resources.

9.4.1 Concepts and frameworks

Sustainable livelihoods concepts, frameworks and definitions vary,³ but many are derived from DFID's sustainable livelihoods framework,⁴ which has been very influential and widely used and adapted. Generally, they identify the following as key and interconnected elements:

- **Vulnerability context.** Vulnerability frames the environment in which poor people live, is responsible for many of the hardships they face and has a direct impact on their assets and the livelihood options open to them. Their vulnerability can be the result of long-term trends and stresses (demographic, economic, political, environmental), shorter-term shocks (epidemics, natural hazards, conflict) or seasonal changes in prices, production, food availability, employment opportunities and health. These can be enduring sources of hardship, destroying people's livelihood assets or forcing them to dispose of assets as part of coping or survival strategies.

³ See K. Hussein, *Livelihoods Approaches Compared: A Multi-agency Review of Current Practice* (London: Department for International Development, 2002), <http://www.eldis.org/go/home&id=40301&type=Document#.VYvEbPIViko>.

⁴ DFID, *Sustainable Livelihoods Guidance Sheets* (London: Department for International Development, 1999), <http://www.eldis.org/vfile/upload/1/document/0901/section2.pdf>.

- Assets, capabilities, capital. These are the wide range of resources which poor people possess or have access to and use to gain a livelihood. Livelihood assets can be broken down into several different categories, commonly described as different forms of ‘capital’: human, social, natural, physical, financial and political.
- Livelihood strategies. These are the ways in which poor and vulnerable people deploy their assets and capabilities to improve their livelihoods (for consumption, production, processing, exchange and income-earning activities).
- Policies, institutions and processes. These are the institutions, organisations, policies, legislation and power relationships that provide the enabling environment for livelihoods, development and DRR. They have great influence on vulnerable people’s access to assets and resources, and hence on their choice of livelihood strategies. These forces operate at all levels, from the household to the international arena, and in private as well as public spheres.

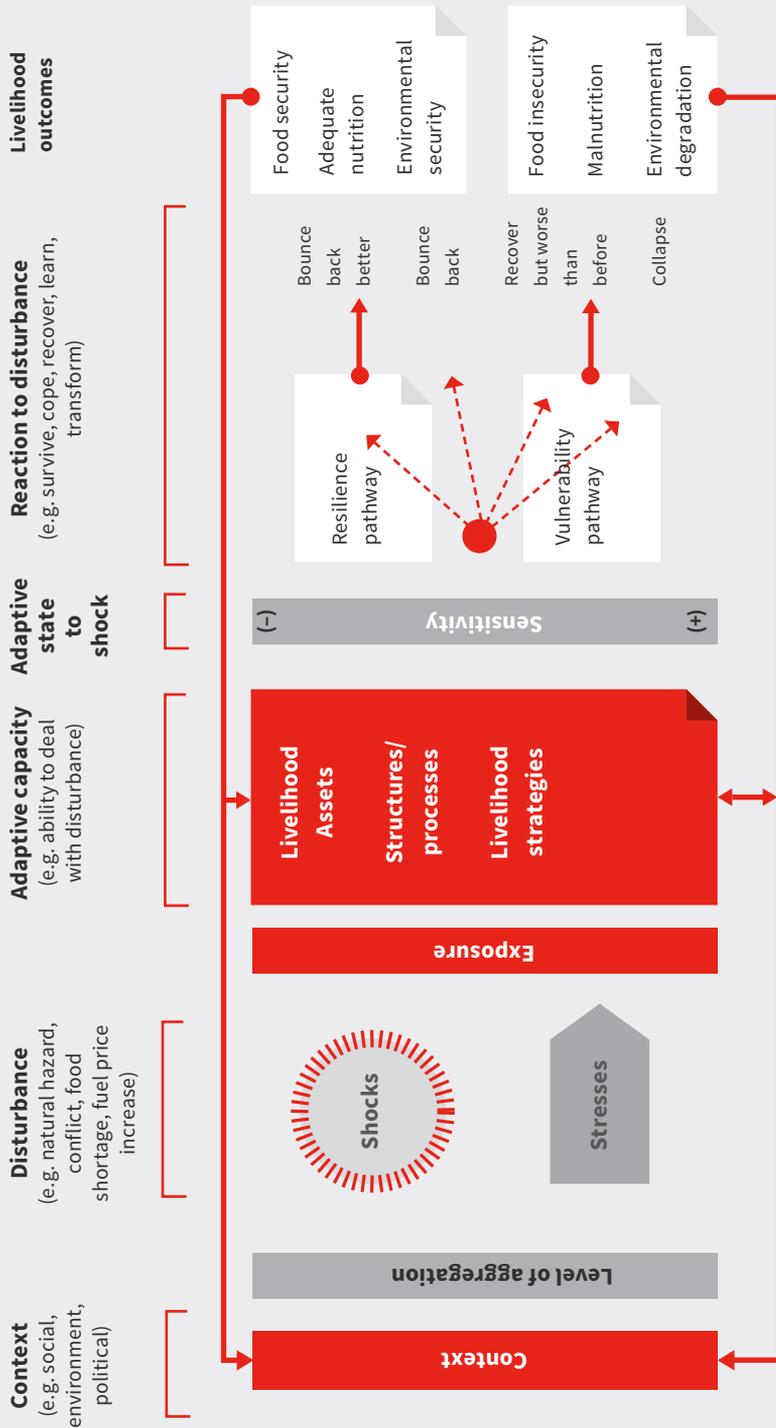
Livelihoods approaches identify the extent and nature of poor people’s livelihood assets, and their vulnerability to hazards as well as other external forces. From this it should be possible to identify entry points for protecting assets that are most at risk or that could be most valuable in a crisis. They also give insights into the factors influencing people’s choice of livelihood strategy, and why they are willing to tolerate hazards and risk.

Livelihoods thinking has also contributed to our understanding of resilience. Figure 9.1 (Livelihoods and resilience in the context of food security) is an example of a recent framework, derived and adapted from earlier sustainable livelihoods models, that links livelihoods and resilience in the context of food security. Figure 9.2 (p. 178) (Components of resilient livelihoods) is another recent model with an alternative perspective of what resilient livelihoods consist of.

9.4.2 Assessments

Sustainable livelihoods analysis (or assessment) is used to consider people’s vulnerability to the impact of shocks and stresses, the nature and effectiveness of their livelihood strategies in protecting and improving livelihoods, and the various actions that can be taken to increase their resilience. Sustainable livelihoods models and frameworks can be used in combination with other appraisal tools to design assessments or create checklists of issues to be considered. Alternatively, other types of analysis can be adapted to take account of livelihoods issues, or the findings from assessments that have already been carried out can be re-examined from a livelihoods perspective. By integrating different types of assessment, it is possible to obtain a more complete view of people’s situations and needs, and from this to design more holistic programmes to help them become more resilient.

Figure 9.1 Livelihoods and resilience in the context of food security



T. Frankenberger et al., *Enhancing Resilience to Food Security Shocks* (Tucson, AZ: TANGO International, 2012), http://www.isnnetwork.org/sites/default/files/reviced_resilience_paper_may_28.pdf.

Figure 9.2 Components of resilient livelihoods



Christian Aid, *Thriving, Resilient Livelihoods: Christian Aid's Approach* (London: Christian Aid, 2012), https://www.christianaid.org.uk/Images/Resilient-livelihoods-briefing-October-2012_tcm15-67261.pdf, p. 2.

There are many similarities between sustainable livelihoods assessments, vulnerability and capacity assessments (VCAs) and methods used to explore the nature and impacts of climate change: they cover many of the same issues and tend to use similar data-gathering tools (see Table 9.1: Tools for assessing hazard-induced vulnerability in sustainable livelihoods analysis). It is not difficult to incorporate a livelihoods perspective in VCAs or a vulnerability perspective in sustainable livelihoods assessments, whether they are carried out for research or project baseline studies. VCAs often consider hazard threats, vulnerabilities, the assets that households and communities possess for pursuing their livelihood strategies and the social networks and institutions that can support this. The Household Economy Approach (HEA), which is widely used in food security programming, investigates vulnerability through livelihoods analysis (see Case Study 14.7: Monitoring household food security). Power relations and politics, at local as well as higher levels, are important issues which often do not receive sufficient attention in livelihoods assessments.

A number of agencies are developing tools and frameworks specifically to integrate DRR, livelihoods and social protection, conceptually or in programme design (see Box 9.2 for examples).

Table 9.1 Tools for assessing hazard-induced vulnerability in sustainable livelihoods analysis

Methods	Application to vulnerability
Secondary data collection (reports, research, statistics, etc.)	Contextual information on a variety of issues including external shocks and stresses likely to affect livelihoods (e.g. rainfall and temperature trends, location and features of natural hazards), health (morbidity and mortality), prices, resource stocks – to complement but not replace primary data
Environmental checklists	Questions to gain information about environmental conditions and concerns, revealing the relationship between the poor and their environment (e.g. what role do environmental resources play in livelihoods; how do environmental hazards, degradation and changes affect livelihoods, and vice versa?)
Sample surveys	Quantitative data on household economies (income, costs etc.), livelihood assets and strategies
Interviews (individuals, households, community groups, key informants), focus groups	Information from different perspectives (communities, other local stakeholders, external experts) on events and trends that cause livelihood stress, differential vulnerability and the effectiveness of adaptive behaviour
Individual and household case studies	Data on different livelihood experiences and resilience to environmental hazards and other shocks
Timelines	Historical occurrence and profiles of longer-term events or trends (e.g. floods, droughts, epidemics, local environmental trends and cycles)
Seasonal calendars	Describe seasonal events and trends, identifying vulnerability context, livelihood assets and strategies (e.g. rainfall, food levels at different times of the year, crop planting and harvesting schedules, food prices, changes in health status)
Preference, matrix and wealth ranking	Reveal vulnerability of different groups' livelihood assets to shocks and stresses and strategies against this
Mapping	Identify physical and environmental features (including hazards), land use, natural and social resources (assets/capital)
Venn diagrams and other institutional appraisal/ mapping methods	Social capital, relations between groups, institutional and policy environment

C. Benson and J. Twigg, *Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organisations* (Geneva: ProVention Consortium, 2007), Guidance Note 10: Sustainable Livelihoods Approaches, http://www.preventionweb.net/files/1066_toolsformainstreamingDRR.pdf, p. 7.

Box 9.2 Tools for integrating DRR, livelihoods and social protection

- M. Ovadiya and C. Costella, *Building Resilience to Disasters and Climate Change through Social Protection: Synthesis Note* (Washington DC: World Bank 2013), <http://documents.worldbank.org/curated/en/2013/05/18019809/building-resilience-disaster-climate-change-through-social-protection>.
- K. Pasteur, *From Vulnerability to Resilience: A Framework for Analysis and Action To Build Community Resilience* (Rugby: Practical Action Publishing, 2011), <http://practicalaction.org/from-vulnerability-to-resilience-framework-v2>.
- K. Vincent and T. Cull, *Adaptive Social Protection: Making Concepts a Reality. Guidance Notes for Practitioners* (Brighton: Institute of Development Studies, 2012), http://www.ids.ac.uk/files/dmfile/ASPGuidanceNotes_FINAL.pdf.

9.5 Issues to consider in livelihoods-centred DRR

9.5.1 Integration

Livelihoods are interdependent and all productive enterprises depend on other people or facilities. For example, farmers need buyers for their produce and transport providers to get to markets; small businesses need goods to sell or tools and equipment for manufacturing, as well as clients; and everyone needs labour. At community level, even small problems have knock-on effects: bad weather could push the price of agricultural produce up, but also restrict farmers' purchasing power for other goods and services; if a footbridge is washed away by a flood, this can add considerably to the time and cost of getting to market to buy and sell.

DRR projects need to adopt a similarly integrated approach where livelihoods are concerned. Livelihood promotion must be supported by livelihood protection. Many different kinds of intervention can help to make livelihoods more resilient, but choices should be made with a specific purpose in mind and as part of a package of measures that will reinforce each other. Sometimes a single area of intervention can produce multiple benefits in terms of livelihood gains and risk reduction. For example, community-managed reforestation projects lead to increased supplies of wood, fodder and wild fruits for consumption or other uses in the home, or for sale; they also contribute to a more resilient environment by reducing soil erosion, lessening landslide risk and conserving water.

Box 9.3 Livelihood adaptation to climate variability and change

Because livelihoods are interconnected, local adaptation to shocks and stresses requires a range of complementary approaches, both long and short term. These might include:

- adopting physical adaptive and mitigation measures, such as excavation or re-excavation of canals, ponds, irrigation channels and storage facilities for retaining rain water;
- adjusting existing agricultural practices: changing cropping patterns, planting drought-tolerant crops, better storage of seeds and fodder and adopting alternative, cash crops;
- adjusting economic activities, including livelihood diversification, facilitating access to markets, developing small-scale cottage industries;
- strengthening local institutions, including self-help programmes, capacity- building and awareness-raising for local institutions;
- strengthening formal institutional structures, such as local disaster management committees and financial institutions; and
- formulating policies to promote adaptive livelihood opportunities.

Adapted from R. Selvaraju et al., *Livelihood Adaptation to Climate Variability and Change in Drought-prone Areas of Bangladesh: Developing Institutions and Options* (Rome: Asian Disaster Preparedness Center and UN Food and Agriculture Organisation, 2006), <ftp://ftp.fao.org/docrep/fao/009/a0820e/a0820e01.pdf>, p. v.

9.5.2 Communities

The household is the basis for many livelihood activities and hence is often the focus of livelihood interventions. However, there is also a collective dimension that should not be overlooked. Individuals and households depend to varying degrees on the support of the community at large and its institutions, for example those that manage water sharing and access to land or that arbitrate disputes. Larger-scale communal facilities that play an important part in protecting and promoting livelihoods, such as tree nurseries, greenhouses and grain stores, have to be managed collectively. Community and local organisations can also generate collective action and promote social cohesion.

At the same time, as Chapter 6 (Communities and participation) shows, communities are not homogeneous. There are differences and sometimes divisions within them, and they contain both elite and marginalised groups. Those holding wealth, power and authority

Case Study 9.3 Integrating livelihoods and resilience programming

The Chars Livelihoods Programme (CLP) works with households on river islands (*chars*) in north-west Bangladesh. It aims to improve the livelihoods, incomes and food security of at least a million poor people. The CLP supports disaster resilience through five complementary areas of activity:

1. Household infrastructure. Homesteads are raised on a plinth to put them above expected flood levels: this protects houses, gardens and livestock. Latrines and tube wells are also raised to ensure uninterrupted access to water and prevent contamination.
2. Asset transfer. The programme provides the poorest families with livelihood assets, mainly cattle (the type found on the *chars* can swim well and can be kept on plinths for long periods during the flood season). Fodder crops are planted around the edges of the plinths, which also gives added protection against erosion by flood waters.
3. Social development. Families receiving CLP support have to attend group meetings and training on community and socio-economic development topics and disaster preparedness.
4. Disaster relief. CLP has an emergency fund to respond to food price rises, provide blankets during cold spells and repair houses after cyclones. Families are sometimes evacuated to the mainland during floods. In the bad floods of 2007, CLP provided food and animal feed to over 11,000 households.
5. Building financial capital. Village savings and loan groups enable families to build up savings against future shocks and provide access to credit in times of hardship.

Studies and evaluations indicate that participating families have become more resilient to a range of shocks and pressures than similar families in villages not covered by the programme.

A. Barrett et al., *Impact of the Chars Livelihoods Programme on the Disaster Resilience of Chars Communities* (Bogra: Chars Livelihoods Programme, 2014), <http://www.gdnonline.org>.

may dominate local institutions, control access to resources and discriminate against or exclude other parts of the community. In addition, local institutions, including those that are broadly representative of the whole community, often lack capacity and require technical and financial support.

Extended family support, social capital and reciprocity and social networks are very important, especially in crises and among poorer households. They play a role in home construction, repair or improvement, and even in relocating houses. They also come into play during disaster events, for instance to help move or store possessions at risk. Social capital is more effective in smaller events which affect only a few households; in larger disasters, where whole communities are affected, capacity to assist others may be more restricted. Livelihoods approaches can help in creating social capital and social organisations because they focus on communities' immediate everyday needs, whereas the threat of disasters may appear remote.

NGOs and other agencies generally support community ownership and management of DRR efforts. However, there can be no certainty that a community will favour such programming, or that it is willing and able to participate. Even communities that do support a programme's aims may be reluctant to take responsibility for managing it, providing labour for construction, purchasing materials or looking after ongoing operations and maintenance. These issues have to be investigated and, where necessary, negotiated with community institutions. It can also be difficult to encourage very poor people to invest their time and labour in activities that benefit the community as a whole, such as repairing roads and irrigation systems, because their immediate household needs have to take precedence. In such cases, food, cash or vouchers may be needed as an incentive to participate. It tends to be the most prosperous people in the community who get involved in voluntary community committees, increasing the likelihood that interventions will favour people who are most active on the committees.

9.5.3 Local infrastructure

Local or community infrastructure (such as irrigation channels, storm drainage, tube wells, water pipes, sewerage and sanitation systems, flood defences, retaining walls, reservoirs, roads, bridges and footpaths) is vital in protecting livelihoods and stimulating economic activity. Other facilities, such as schools, health centres and public shelters, also make important contributions to community well-being and resilience. Construction, rehabilitation and strengthening or retrofitting of such infrastructure forms an important part of many DRR interventions and often has a rapid and significant impact. It also creates jobs locally, provides opportunities for skills training and can make use of local materials and technologies.

However, planners have to consider how to set priorities regarding individual infrastructure components and their contribution to livelihood development and resilience. Whereas large-scale infrastructure programmes are planned and implemented by central governments, sometimes with support from bilateral and multilateral aid agencies, building local-level infrastructure is sometimes a piecemeal process and a wider variety of organisations may be involved. Nevertheless, experience shows that it is possible to fund and implement some forms of infrastructure provision or upgrading (e.g. water and sanitation, drainage, tracks and paths) through local partnerships involving communities, NGOs, local government and businesses.

Obtaining the right materials can be costly and may require some form of external financing, but communities commonly make some contribution, particularly their labour and locally available materials. Traditional and indigenous knowledge can be applied effectively to infrastructure building, though it often requires engineering expertise to ensure that structures are built and repaired properly to make them as hazard-resistant as possible, and hazard and risk assessments will be required to ensure they are placed in safe locations. Moreover, agencies working on infrastructure often invest only in construction, with little provision being made for ongoing operation and maintenance or for transferring relevant technical skills to communities and their organisations. Ownership of, and responsibility for, infrastructure also need to be established and agreed from the start.

9.6 Social protection and safety nets

Livelihood support can come through a range of interventions to defend households and communities against hazards, as well as through wider social protection initiatives aimed at reducing the economic and social vulnerability of poor, marginalised and excluded individuals or households experiencing transitory livelihood hardship or long-term, chronic, poverty. Social protection can take a variety of forms, including policies and programmes to promote employment and protect jobs (e.g. skills training, micro-credit services), income support, pensions, social insurance (for unemployment, ill health, disability, injury and old age) and direct transfers of cash, food or other resources (see Chapter 12 for other financial mechanisms that support DRR).

Safety nets are a particular form of shorter-term social protection. They play a vital role in helping people to meet their immediate needs in different kinds of crisis and protecting them against falling back into long-term poverty as a result of the losses they suffer. They have been established in many countries in response to shocks and pressures of different kinds (for an example, see Case Study 9.4: Creating a national social safety net). In disasters they often focus on cash transfers, the provision of food (e.g. through supplementary feeding programmes or food stamps) and public works that provide employment and income.

Box 9.4 Types of community infrastructure

Roads and bridges	Local roads, walkways and small-scale pedestrian and road bridges which provide physical, social and economic connectivity (e.g. access to markets and services) as well as the local and national road system beyond
Water and sanitation	Drainage ditches, channels and drains, piped and boxed culverts, embankments, retaining and protection walls, small water reservoirs, ponds and earthen dams, river inlets and minor irrigation works, shallow wells, pump houses and localised distribution systems, locally improvised waste disposal and composting plants
Education and health	Modest educational and health facilities, often in remote areas or informal settlements. These may have been constructed, adapted and managed by the communities themselves with little or occasional outreach or oversight support provided by the respective authorities
Social and cultural	Locally run resource centres, childcare facilities, playgrounds, religious centres, graveyards, community centres, multi-purpose halls
Energy	Off-grid community and household based energy generation and distribution systems, including diesel generators, biogas plants, solar home systems for electrification and micro-hydros
Economic	Community- and household-level capital, such as the buildings, capital, assets and stocks within micro-enterprises and home-based industries (e.g. agriculture, workshops) that produce goods and deliver services. Local marketplaces, including covered markets and community shops
ICT	Small ICT-based installations exist in some communities catering to their need for information, communication and early warning messages. Community telephone/internet access points, local communication masts and other improvised communication devices

Adapted from UNDP, *Guidance Note: Community Infrastructure Rehabilitation* (New York: United Nations Development Programme, 2013), <http://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/signature-product--guidance-note-on-community-infrastructure-reh.html>, p. 30.

Case Study 9.4 Creating a national safety net

Ethiopia's Productive Safety Net Programme (PSNP) was set up in 2005 following a series of droughts. Initiated and implemented by the Ethiopian government through regional and local administrations, it uses community mechanisms (based on criteria set by the government) to identify beneficiaries and promote local ownership and accountability. It is supported by several international donor agencies.

The programme is one of the largest social safety nets in Sub-Saharan Africa, making cash or food payments to 7.8m people who are chronically short of food. In return, recipients usually work on projects to benefit their communities, such as soil and water conservation, road building, reforestation and construction of clinics and schools; cash or food are given to people who are physically unable to work. The PSNP provides support to households for several months of the year for up to five years, ensuring that they can provide for their daily needs without having to sell off valuable assets, as well as giving them the time and opportunity to build up their livelihoods and overcome their need for external support.

The PSNP has a \$25m contingency fund and a Risk Financing Mechanism (RFM) which allows the programme to expand in short-term crises. In 2011 the RFM was activated to help families cope with food shortages resulting from drought, assisting 9.6m people in districts covered by the PSNP (a third of whom were not existing PSNP clients) to obtain food for up to three months. The response was rapid: from initial request through needs verification to distribution took only six weeks.

The PSNP has been effective in reducing the amount of time households spend without food between harvests and improving wellbeing more generally. The income provided by the programme is a vital resource in building up livelihood assets. However, the programme cannot protect recipients fully against sudden and severe shocks, and many people not reached by the programme require emergency food aid each year.

C. Béné, S. Devereux and R. Sabates-Wheeler, *Shocks and Social Protection in the Horn of Africa: Analysis from the Productive Safety Net Programme in Ethiopia* (Brighton: Institute of Development Studies, 2012), <http://www.ids.ac.uk/publication/shocks-and-social-protection-in-the-horn-of-africa-analysis-from-the-productive-safety-net-programme-in-ethiopia>; DFID, *Building Resilience in Ethiopia* (London: Department for International Development, 2012); M. Hobson and L. Campbell, 'How Ethiopia's Productive Safety Net Programme (PSNP) Is Responding to the Current Crisis in the Horn', *Humanitarian Exchange*, 53, 2012, <http://www.odihpn.org/humanitarian-exchange-magazine>, pp. 9–11; World Bank, *Designing and Implementing a Rural Safety Net in a Low Income Setting: Lessons Learned from Ethiopia's Productive Safety Net Program 2005–2009* (Washington DC: World Bank, 2010), <http://www.worldbank.org>.

By helping poor individuals and households to protect and strengthen their livelihoods and coping strategies, social protection programmes build resilience to future crises and shocks. They can also focus more specifically on DRR (e.g. through targeted public works programmes for soil and water conservation, road improvements and strengthening infrastructure) or protecting people in crisis (e.g. with cash, food and asset transfers or public works projects to provide employment).

National governments are the leading actors in formal social protection programmes, sometimes with support from international financial institutions and other international agencies. In certain circumstances, this level of capacity and financial resources can enable programmes to mobilise and expand operations to meet the immediate needs of large numbers of people in the event of a disaster. Countries with social protection systems in place before a shock may be able to cope better in such circumstances, but the ability of systems to respond varies considerably according to context and resources. Well-established programmes with extensive coverage and capacity for contingency planning and pre-positioning are more likely to be able to scale up effectively in disaster response, but systems still need to be well integrated with existing development and DRR planning, and the roles of implementing agencies need to be clearly defined and agreed.

Informal social protection draws on traditional coping strategies, social capital and community-based actions. These can be effective at local level, and in many cases they provide an important source of security, but their outreach may be limited. Different groups have access to different social and political networks and sources of support. These networks may be strong or weak in a crisis. They may also compete with one another over access to social protection support and other forms of aid.

There has been considerable debate about how social protection and safety net programmes will adapt to the unpredictable weather patterns and extreme weather events associated with climate change. Those that focus on purely economic interventions will probably have to take a wider developmental approach that puts more emphasis on issues such as public accountability, social vulnerability, exclusion and marginalisation and equity and rights. There is plenty of scope for further integration of social protection mechanisms with DRR and climate change adaptation on the ground, and much to be learnt about the best approaches.