# Sustainable Livelihoods Approaches

#### Guidance Note 10

Tools for Mainstreaming Disaster Risk Reduction is a series of 14 guidance notes for use by development organisations in adapting programming, project appraisal and evaluation tools to mainstream disaster risk reduction into their development work in hazard-prone countries. The series is also of relevance to stakeholders involved in climate change adaptation.

This guidance note explains how sustainable livelihoods (SL) thinking and methods can support the incorporation of natural hazards and associated disaster risk into development project planning. It briefly introduces SL thinking and explains its application to projects and programmes, with particular emphasis on its relevance to hazards and disasters. It reviews methods used in SL approaches to assess hazards, vulnerability and risk, and discusses other factors in applying SL to project cycle management.

### 1. Introduction

In recent times, thinking about poverty and sustainable development has begun to converge around the linked themes of vulnerability, social protection and livelihoods. This has been accompanied by the development of a variety of approaches to analyse situations and assess the likely impact of project interventions. These include vulnerability analysis (see Guidance Note 9), social analysis/social impact assessment (see Guidance Note 11) and sustainable livelihoods approaches (sometimes referred to as livelihood security or livelihood systems approaches).

#### Box 1

#### **Defining 'sustainable livelihoods'**

Whatever their precise terminology, most agencies' definitions state that:

- A livelihood comprises the capabilities, assets and activities required for a means of living.
- A livelihood is sustainable when it can cope with and recover from external stresses and shocks, and maintain or enhance its capabilities and assets now and in the future.

SL is still evolving as an idea and a methodology, but many international development agencies have adopted it in project appraisal and review, and it is steadily becoming part of the mainstream of development planning.

# 2. Sustainable livelihoods approaches

A sustainable livelihoods approach is essentially a way of organising data and analysis, or a 'lens' through which to view development interventions. Taking a holistic view of a project (need, focus and objectives), it provides a coherent framework and structure for analysis, identifies gaps and ensures that links are made between different issues and activities. The aim is to help stakeholders engage in debate about the many factors that affect livelihoods, their relative importance, the ways in which they interact and the most effective means of promoting more sustainable livelihoods.

There is no single SL approach, and flexibility in method is a distinctive feature of SL. But in most models the main elements are similar and analysis will address all of these to some degree:

- *Context*. The external environment in which poor people live their lives and which is responsible for many of their hardships.
- Assets and capabilities (or 'capital'). The resources poor people possess or have access to and use to gain a livelihood.
- *Policies, institutions and processes* (sometimes called transforming structures and processes). The institutions, organisations, policies and legislation that determine access to assets and choice of livelihood strategies.
- Livelihood strategies. The ways in which poor people deploy their assets and capabilities to improve their livelihoods (i.e., consumption, production, processing, exchange and income-generating activities).
- *Outcomes*. Successful livelihood strategies should lead to more income and more economically sustainable livelihoods, increased well-being, reduced vulnerability and more sustainable use of the natural resource base.

Figure 1 shows one widely used sustainable livelihoods framework that contains these elements.

H = Human capital S = Social capital Kev N = Natural capitalP = Physical capital F = Financial capital Livelihood assets Livelihood outcomes **Vulnerability** Policies. context institutions, More income processes Increased Shocks well-being Trends Levels of Livelihood Reduced Seasonality government strategies vulnerability Private sector Improved food Laws security Influence and access Culture More sustainable **Policies** use of NR base Institutions

Figure 1 DFID's sustainable livelihoods framework

Source: DFID (1999–2005), Sustainable Livelihoods Guidance Sheet 2.1.

# 3. Applying sustainable livelihoods approaches to projects and programmes

SL approaches can be used at both policy and project level to initiate new poverty reduction activities or modify existing activities to improve livelihood outcomes.

At project level, SL thinking can be applied at the identification and appraisal stages of the project cycle (see Section 5) to identify development priorities and plan new activities. It can also be used to review project activities – which may not have been designed originally with SL in mind – and to improve monitoring and evaluation.

Application of SL in project design helps to match project activities to poor people's priorities. Livelihoods analysis leads to three main types of project activity (which are not exclusive):

- *Livelihoods promotion*. Activities to improve household resilience (e.g., through savings and credit programmes, crop diversification and marketing, improved health care).
- Livelihoods protection. Activities to prevent decline in household livelihood security, particularly in periods of stress (e.g., early warning systems, cash/food for work, providing seeds and tools, hazard mitigation).
- Livelihoods provisioning. Direct provision of essential needs (e.g., food, water, shelter), usually in emergencies.

It can also lead to other activities aimed at social, cultural and institutional change that are associated with improved livelihoods and poverty reduction. Experience of projects that adopt SL thinking has shown that this can change planners' attitudes (see, for example, Box 2).

#### Box 2

#### From water resources to water security

During the mid- to late 1990s the British Geological Survey (BGS) began to incorporate a livelihoods perspective into its work on drought in sub-Saharan Africa.

This work had originally been resource-focused, highlighting groundwater management policies and interventions. By following an SL approach and using project teams with a broader skills base (hydrogeology, water policy and economics, institutions and social development), BGS began to see the water security implications of drought: the nature of water scarcity and barriers to access; interventions needed to protect livelihoods before lives are threatened; and the information required for effective pre-disaster mitigation. For example, community surveys showed how access to water was influenced by access to a range of household assets (labour and animals for collecting water, money to buy it, social capital for securing water rights or access to irrigation schemes and knowledge of alternative sources) as well as by barriers to physical access to the water itself.

This led BGS to think beyond conventional sectoral approaches and the narrow focus of many early warning systems and policy responses. Within the organisation's international development work generally, there was a move towards multidisciplinary project teams and partnerships with external organisations that have different insights and skills – and hence a problem-led, rather than discipline-led, approach to projects.

Source: DFID (1999–2005), Sustainable Livelihoods Guidance Sheet 7.1.

# 4. Relevance to hazards and vulnerability

By giving prominence to vulnerability and external shocks, SL approaches provide good opportunities for including hazard and disaster awareness in project planning (see Guidance Note 9 for more detailed discussion of vulnerability and its relationship to hazards). SL thinking considers vulnerabilities of all kinds as central to the ways in which livelihoods are shaped. Two main aspects of vulnerability are considered within the SL approach:

- The extent to which different groups are exposed to particular trends, shocks and seasonality (the 'external dimension' of vulnerability).
- How their livelihoods are affected by these influences (the 'internal dimension').

#### **Vulnerability context**

The external dimension of vulnerability is usually known as the 'vulnerability context': a collection of external pressures that are a key factor in many of the hardships faced by poor people. The vulnerability context should be the starting point for analysis and is of particular importance for incorporating natural hazards threats into project thinking.

DFID's framework (see Figure 1) is typical in presenting three main categories of external vulnerability:

■ *Trends* are long term and usually large scale. They may include trends in population, resource acquisition and use (including conflict over resources), economics (national and international), governance and politics, technology and the environment (e.g., climate change).

- Shocks include human health shocks (e.g., epidemics), natural shocks (e.g., natural hazard-induced disasters), economic shocks (e.g., rapid changes in exchange rates), conflict and crop/livestock health shocks. They can destroy assets directly (e.g., in the case of floods or storms). They can also force people to dispose of assets as part of coping strategies. Resilience to external shocks and stresses is an important factor in livelihood sustainability.
- Seasonality is expressed through seasonal shifts in prices, production, food availability, employment opportunities and health. These are some of the greatest and most enduring sources of hardship for poor people.

Table 1 shows how one SL assessment categorised external forces according to their nature and scale.

Table 1 Sources of vulnerability in rural Bangladesh

	Micro-level	Meso-level	Macro-level
Natural/ environmental	Salinity Aridity Arsenic contamination Pest attack	Waterlogging River erosion Cyclone Epidemics Land degradation	Climate change Sea-level rise Flood Drought
Social	Illness Injury Disability Old age Death of family member Crime Domestic violence		
Economic		Unemployment Resettlement Harvest failure	
Political	Political violence	Mastanism <sup>2</sup>	Governance crisis

Source: Islam, S.A. 'The causes of vulnerability in rural livelihoods'. In Toufique, K.A. and Turton, C. (eds). *Hands not Land: How Livelihoods are Changing in Rural Bangladesh*. Dhaka: Bangladesh Institute of Development Studies, undated. Available at: http://www.livelihoods.org/lessons/docs/handsland.pdf

#### Livelihoods' vulnerability to shocks and stresses

SL analysis can be used to consider three main aspects of livelihood vulnerability to shocks and stresses:

- The impact of hazards on all the different kinds of livelihood asset/capital (see Figure 1). Hazards affect natural capital (e.g., floods that ruin agricultural land), physical capital (e.g., loss of housing, tools), financial capital (e.g., loss of savings), human capital (e.g., loss of life, injury, unemployment) and social capital (e.g., damage to social networks).
- The livelihood strategies adopted by households and communities to reduce their vulnerability to hazards and recover from hazard events. These can be diverse, ranging from physical measures (e.g., building flood embankments, strengthening houses) to social/organisational actions (e.g., reinforcing social support networks, establishing local disaster preparedness committees) and livelihood diversification.
- Institutions, policies and processes may help protect people against the impact of shocks (not only conventional disaster mitigation measures, such as public education about risk avoidance, evacuation plans and relief provision, but all kinds of development interventions that build up livelihood assets, for example, micro-credit, insurance, health, agricultural extension and organisational development projects).

<sup>2</sup> Behaviour associated with illegitimate use of power and/or deployment of violence by political activists.

# 5. Use of sustainable livelihoods methods for assessing hazards and disaster risk

#### **General methodology**

There are no set rules for applying SL thinking to projects or for carrying out a livelihoods assessment. The main aim should be to understand the livelihoods of different stakeholder groups affected by the project and the influences on them. From this, it is then possible to identify the best entry points or options for improving livelihoods by building and protecting livelihood assets or influencing the institutions, policies and processes. Although SL assessment may identify several such entry points, the most appropriate approach might be a single-sector intervention as long as it takes cross-sectoral linkages into account and considers all the potential project impacts on vulnerable people's livelihoods.

SL frameworks can be used in combination with other appraisal tools as a checklist or to structure ideas. Specific livelihoods analyses can be carried out; alternatively, other analysis can be modified to take account of SL issues, or the findings from other technical studies can be reviewed from an SL perspective – many SL analyses draw on the results of other appraisals. In some projects, the design process does not explicitly use a formal SL framework, but incorporates certain concepts and methods from it.

In general planners should focus more on analysis than information gathering and use existing information wherever possible. Additional information and analysis may sometimes be required, but livelihoods analysis does not have to examine every aspect in depth. In looking at the vulnerability context, for example, it should identify those trends, shocks and aspects of seasonality that are particularly important to livelihoods in the project area. For small, focused projects, it may be best to use the SL framework as a checklist. More detailed analysis will probably be required for larger and more complex projects, although broad-brush analysis may sometimes be more appropriate for large-scale geographical or sectoral programmes.

It is often impossible to assemble project teams with all the specialist expertise needed to assess every aspect of SL. It is, therefore, important for all project team members to understand SL concepts and the approaches used and to take a broad view of their task, so that important issues and linkages between the different parts of the analytical framework are not overlooked.

#### Phases of SL analysis

The approach should be phased,<sup>3</sup> starting with an overview of the most important risk factors (often largely descriptive) and identification of possible relationships and linkages between them. It should then lead on to more detailed analysis of key problems, the nature of expected changes, coping strategies and potential solutions. These stages of data collection and analysis can be matched to the standard sequencing of activities in project identification and appraisal (see Table 2, which outlines a possible sequence of a full-scale livelihood security assessment: the exact sequence will vary depending on the project's objectives and the information sought).

Table 2 Phases of SL analysis in project planning

Phase(s) of project cycle <sup>4</sup>	Phase of SL analysis	Purpose	Main activities
Programming	Objective setting	Establish objectives and frame- work to guide SL analysis	Design assessment framework and work plan
Identification and appraisal (preparation)	Review of existing information	Set the parameters for primary information collection	Assess accuracy and comprehensiveness of existing information
			Identify major livelihood issues to be assessed through field data collection
			Validate conclusions through stakeholder discussions
			Design approaches for gathering new information
Appraisal (preparation)	New or additional field assessment	Improve understanding of key issues and fill information gaps	Site selection (chosen to capture variation in livelihood systems, constraints and sources of vulnerability)
			Preparatory work with communities involved in field studies
			Field team training
			Field data collection, entry, organisation, analysis (iterative process)
Appraisal (preparation)	Problem and opportunity analysis	Refinement of information, identification of problems and opportunities, and selection of interventions	Multi-stakeholder analysis and design workshops
Appraisal (preparation)	Project design		

Adapted from Frankenberger, T. Drinkwater, M. and Maxwell, D. 'Operationalizing household livelihood security'. In *Proceedings from the Forum on Operationalizing Sustainable Livelihoods Approaches, Pontignano (Siena) 7–11 March 2000.* Rome: United Nations Food and Agriculture Organization, 2001. Available at: http://www.fao.org/documents/show\_cdr.asp?url\_file=/docrep/003/x9371e/x9371e15.htm; ibid., Appendix 3; CARE. *Household Livelihood Security Training & Facilitation Manual.* Atlanta: CARE USA, Partnership and Household Livelihood Security Unit, 2000. Available at: http://www.kcenter.com/phls/hls.htm

#### **Data collection and analysis**

A variety of techniques that are commonly used in SL data collection and analysis can be applied to explore the vulnerability context, its impact on livelihood assets and strategies, and ways by which these can be reinforced. Table 3 lists some of those most directly relevant to hazard-related vulnerability (though they may also address other aspects of sustainable livelihoods).

<sup>4</sup> See Guidance Note 5 for a more detailed account of the project planning process.

Table 3 Tools for assessing hazard-induced vulnerability in SL 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) <sup>5</sup>	
Venn diagrams and other institutional appraisal/mapping methods	Social capital, relations between groups, institutional and policy environment	

Sources: DFID (1999–2005), Sustainable Livelihoods Guidance Sheet 4; CARE/TANGO International (2002).

Assessments should use several methods to capture the different elements of livelihood vulnerability/resilience and validate data through triangulation and cross-checking. Much of the data collected through fieldwork may be qualitative (especially if participatory appraisal techniques are used), but some secondary data are likely to be quantitative and field assessments can include quantitative methods such as household or health surveys. Much contextual information on environmental features (including hazards) and livelihood resilience may be gathered through initial assessment based on secondary data, interviews with key informants and perhaps community meetings (see also Guidance Note 2). Reviews of existing information should be as comprehensive as possible and their findings are usually validated by stakeholders before collecting new field data.

Formal risk assessment is not usually considered necessary in routine livelihoods analysis, but may be required in some situations.

<sup>5</sup> This may use maps, formal surveys and other data sets. In community-based work, participatory techniques such as transect walks and social mapping may be used.

#### **Indicators**

*Vulnerability context*. Many indicators can be used to identify the significance of externally induced vulnerability and changes over time. The example presented in Table 4 is from a livelihoods assessment carried out for an irrigation project in South India, where indicators developed by the team were explored and discussed with the affected communities.

#### Table 4 Indicators of shocks, trends and seasonal variations

#### Shocks

- Human health (epidemics, hunger periods, etc.)
- Natural shocks (droughts, floods, etc.)
- Livestock disease and crop failures
- Economic shocks (sudden variations in prices, unemployment periods, etc.)
- Conflicts (between landowners and landless, between irrigation authorities and farmers and others)
- Other important technical and social events (e.g., introduction of mechanisation, construction of wells/boreholes, water supply, introduction of TV and telephone in the villages)

#### Trends and changes over time

- Changes in main income sources, emergence of new income-generating activities
- Agricultural production (types of crops) and related changes in tasks carried out, impact on diet, fertiliser and pesticide use, impact of mechanisation and irrigation
- Marketing of different foodstuffs, access to markets, prices of foodstuffs and consumer goods
- Access to and use of natural resources including water, fisheries, wood and fodder, changes in bio-diversity and impacts on daily life
- Population changes, including migration, family planning, village size, percentage of landowners/landless
- Ways in which life has improved or worsened, including consumption trends, health, education, standard of living, family values, infrastructure (transport, hospital), savings behaviour

#### Seasonal variations

- Prices of fish, rice, other crops and vegetables (variations in prices indicate availability and production of these foods)
- Meal frequency, with distinctions between younger adults, elders and children
- Water availability, in both canal and wells, and rainfall
- Work load and opportunities for employment
- Health (incidence of disease)
- Consumption of fish, chicken and mutton
- Household expenses (religious festivals, school, etc.)
- Availability of fodder and fuel wood
- Access to markets and other infrastructures

Source: Brugere, C. and Lingard, J. Evaluation of a Livelihoods Approach in Assessing the Introduction of Poverty-Focused Aquaculture into a Large-Scale Irrigation System in Tamil Nadu, India. Newcastle-upon-Tyne, UK: University of Newcastle, School of Agriculture, Food and Rural Development, 2001. Available at: http://www.livelihoods.org/post/Docs/SLA\_Aqua.pdf

Livelihoods' vulnerability to shocks and stresses. A wide range of indicators can be used to assess livelihood vulnerability or security comprehensively. In most cases, a narrower focus is likely to be more practical, depending on capacity, resources and sample size. This could focus on specific external shocks and stresses (Box 3 gives an example).

#### Box 3

#### Assessing vulnerability to winter weather

A study in 2003 sought to identify the impact of winter weather on the livelihoods of poor households in the Afghan capital, Kabul, and to identify appropriate development interventions. The study surveyed 100 selected households, members of which were interviewed three times over a three-and-a-half month period. It focused on the particular threats from winter, households' susceptibility to them, coping strategies, and the impact of international non-governmental organisations' cash-for-work programmes.

Evidence was collected relating to the following indicators:

#### Threats from winter

- Quality of housing and basic facilities
- Ability to purchase fuel
- Ownership of items such as blankets and warm clothes
- Security of tenure
- Access to employment during the winter months and factors affecting ability and access to work
- Ownership of productive assets (e.g., land, livestock, tools) and other material assets (e.g., radios, jewellery)
- Health status

#### Coping strategies (with regard to:)

- Winter weather (e.g., obtaining fuel and food, changing diet or consumption patterns)
- Income (e.g., seeking alternative work, borrowing, selling assets, begging, sharing income and expenditure across extended families, moving, drawing on social obligations)

Changes in these indicators over time as the result of the cash-for-work interventions were also measured.

Based on its findings, the study was able to recommend several practical modifications and improvements to development assistance programmes.

Source: Grace, J. One Hundred Households In Kabul: A study of winter coping strategies, and the impact of cash-for-work programmes on the lives of the "vulnerable". Kabul: Afghanistan Research and Evaluation Unit, 2003. Available at: http://www.areu.org.af

### 6. Critical factors for success

In general, SL analysis should be based on holistic thinking and a multidisciplinary approach, seeking to identify all relevant constraints, assets and opportunities and relate them to one another.

With regard to incorporating natural hazards in SL assessments, key factors include:

- Recognition of the centrality of vulnerability (both external and internal) to livelihoods.
- Appreciation that livelihoods and the vulnerability context are dynamic and may change quickly.
- Explicit consideration of the significance of hazards and their impact in exploration of vulnerability (this does not mean that there should be special emphasis on hazards, only that their relative importance within the vulnerability context should be properly assessed and kept in mind).
- Recognition of the importance of poor people's views and experiences in understanding the vulnerability context and its impact.

#### Box 4

#### Hazard and disaster terminology

It is widely acknowledged within the disaster community that hazard and disaster terminology are used inconsistently across the sector, reflecting the involvement of practitioners and researchers from a wide range of disciplines. Key terms are used as follows for the purpose of this guidance note series:

A *natural hazard* is a geophysical, atmospheric or hydrological event (e.g., earthquake, landslide, tsunami, windstorm, wave or surge, flood or drought) that has the potential to cause harm or loss.

*Vulnerability* is the potential to suffer harm or loss, related to the capacity to anticipate a hazard, cope with it, resist it and recover from its impact. Both vulnerability and its antithesis, *resilience*, are determined by physical, environmental, social, economic, political, cultural and institutional factors.

A *disaster* is the occurrence of an extreme hazard event that impacts on vulnerable communities causing substantial damage, disruption and possible casualties, and leaving the affected communities unable to function normally without outside assistance.

Disaster risk is a function of the characteristics and frequency of hazards experienced in a specified location, the nature of the elements at risk and their inherent degree of vulnerability or resilience.<sup>6</sup>

*Mitigation* is any structural (physical) and non-structural (e.g., land use planning, public education) measure undertaken to minimise the adverse impact of potential natural hazard events.

*Preparedness* is activities and measures taken before hazard events occur to forecast and warn against them, evacuate people and property when they threaten and ensure effective response (e.g., stockpiling food supplies).

Relief, rehabilitation and reconstruction are any measures undertaken in the aftermath of a disaster to, respectively, save lives and address immediate humanitarian needs; restore normal activities; and restore physical infrastructure and services.

Climate change is a statistically significant change in measurements of either the mean state or the variability of the climate for a place or region over an extended period of time, either directly or indirectly due to the impact of human activity on the composition of the global atmosphere or due to natural variability.

<sup>6</sup> The term 'disaster risk' is used in place of the more accurate term 'hazard risk' in this series of guidance notes because 'disaster risk' is the term favoured by the disaster reduction community.

# **Further reading**

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DFID. Sustainable Livelihoods Guidance Sheets. London, Department for International Development (UK), 1999–2005. Available at: http://www.livelihoods.org/info/info\_guidancesheets.html

Livelihoods Connect website (http://www.livelihoods.org) (a major collection of online documents: concepts, methods, applications, training).

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Tools for Mainstreaming Disaster Risk Reduction is a series of 14 guidance notes produced by the ProVention Consortium for use by development organisations in adapting project appraisal and evaluation tools to mainstream disaster risk reduction into their development work in hazard-prone countries. The series covers the following subjects: (1) Introduction; (2) Collecting and using information on natural hazards; (3) Poverty reduction strategies; (4) Country programming; (5) Project cycle management; (6) Logical and results-based frameworks; (7) Environmental assessment; (8) Economic analysis; (9) Vulnerability and capacity analysis; (10) Sustainable livelihoods approaches; (11) Social impact assessment; (12) Construction design, building standards and site selection; (13) Evaluating disaster risk reduction initiatives; and (14) Budget support. The full series, together with a background scoping study by Charlotte Benson and John Twigg on Measuring Mitigation: Methodologies for assessing natural hazard risks and the net benefits of mitigation, is available at http://www.proventionconsor tium.org/mainstreaming\_tools



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PO Box 372, 1211 Geneva 19, Switzerland E-mail: provention@ifrc.org Website: www.proventionconsortium.org