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The platform on livelihoods, equity and empowerment

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Brief No 3 – Risks & Vulnerability

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1. Introduction – why do risk and vulnerability matter?

People everywhere face risks, but poor people, especially those living in rural areas and depending on agriculture, and those living in tropical ecologies, are more exposed to a wide variety of risks than the non-poor. For this reason, in this Brief we focus our illustrations largely on the risk and vulnerability experienced by rural people living in poverty.

'Risk affects many different aspects of people's livelihoods: It affects whether people can maintain assets and endowments, how these assets are transformed into incomes via activities and how these incomes and earnings are translated into broader development outcomes, such as health and nutrition.'
(*Source*: Dercon, 2005)

Risks people face can be as diverse as accidents and diseases, harvest failures, natural disasters, economic disruption from increased market openness, or political violence. In an attempt to minimise risk exposure, poor people may invest in costly preventive measures which, in turn, contribute further to poverty. Poor people often refrain from investing in high-risk but high-return activities and thus forego income. Or households hold highly diversified asset portfolios, which are well suited to smooth income or consumption, but which might not be the most productive. Poor people's strategies in dealing with risks (see Section 4) depend on the assets they have at their disposal (including natural, physical, financial, human, social and political assets, see the Ludi and Slater, 2007, on the Sustainable Livelihood Framework) and on the nature of risks to which they are exposed. The poorer a household, the fewer assets are available for them to rely on in case a shock occurs. Therefore, social protection and risk management strategies (e.g. informal and formal insurance systems, public works, safety nets, cash transfers) need to be devised aiming at providing instruments that allow poor people to minimise impacts of exposure to risks and support them in building up their asset base (see Section 5).

2. Definitions of risk and vulnerability

Understanding risk and risk aversion is important when seeking to understand poverty. **Risk overlaps with poverty, but they are not synonymous**. All people face risks, the point is how people, especially the poor, are able to deal with them.

The World Bank (2001: 139) defines risk and vulnerability as follows:

- '***Risk*** *refers to uncertain events that can damage well-being – the risk of becoming ill, or the risk that a drought will occur. The uncertainty can pertain to the* ***timing*** *or the* ***magnitude*** *of the event. For example, the seasonal fluctuation of farm income is an event known in advance, but the severity is not always predictable.*
- ***Vulnerability*** *measures the resilience against a shock or stresses – the likelihood that a shock will result in a decline in well-being. [...] Vulnerability is primarily a function of a household's asset endowments and insurance mechanisms – and of the characteristics (severity, frequency) of the shock.'*

The OECD/DAC conceptualises **risk** as the likelihood and potential severity of occurrence of a particular and potentially adverse shock or stress, while **vulnerability** is the degree of exposure of households or individuals to shocks and stresses, and their ability to prevent, mitigate or cope with the event (Farrington, 2004).

2.1. Risks

Poor people are typically more exposed to risks and least protected from them. They have limited assets, and are thus less able to deal with risks and absorb shocks. Risk exposure has a direct bearing on well-being, causes poverty or can increase the depth of poverty (Hoogeveen et al., 2005). Risks and shocks can be related to all dimensions of poverty: human, socio-cultural, political, protective and economic. The direction of causation can be both ways – poverty causes exposure to risks, e.g. poor people are forced to live in an area exposed to natural hazards, and risks can cause poverty, e.g. a natural hazard such as a flood can destroy assets.

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the Swiss Agency for Development and Cooperation
and operated by Intercooperation and Overseas Development Institute

Interventions aiming at reducing risk exposure, for example regulations regarding settlement close to rivers prone to flooding or investments in soil conservation and afforestation in uplands to reduce the magnitude of flooding can be a direct contribution to poverty reduction. On the other hand, interventions towards reducing poverty might allow people to move away from such areas prone to flooding.

Table 1: Main sources of risk

Type of risk	Idiosyncratic: Risks affecting an individual or household (micro)	Covariant: Risks affecting groups of households or communities (meso)	Covariant: Risks affecting regions or nations (macro)
Natural		Rainfall Landslide Volcanic eruption	Earthquake Flood Drought High winds
Health	Illness Injury Disability Old age Death	Epidemic	
Social	Crime Domestic violence	Terrorism Gang activity	Civil strife War Social upheaval
Economic		Unemployment Resettlement Harvest failure	Changes in food prices Growth collapse Hyperinflation Balance of payments, financial, or currency crisis Technology shock Terms of trade shock Transition costs of economic reforms
Political		Riots	Political default on social programs Coup d'état
Environmental		Pollution Deforestation Nuclear disaster	

(*Source*: World Bank, 2001: 136)

Risks can be distinguished conceptually in a number of ways (e.g. Morduch, 1997, in Fafchamps, 1999): (i) according to **scale**, ranging from risks affecting individuals to those affecting whole nations or regions; (ii) according to **frequency**, e.g. certain risks, such as a minor illness, might occur frequently, whereas others – a major accident – are much less frequent. Small, but frequent risks are more easily to deal with than large, infrequent negative shocks; (iii) whether the risk is a **collective (covariant)** or an **idiosyncratic risk**, with collective risk factors such as droughts, epidemics and warfare affecting groups of households, regions or even entire nations, whereas idiosyncratic risk factors such as illness, accidents, unemployment or the loss of property (e.g. death of livestock) are those affecting individuals or households; and (iv) whether it is an **income** or a **non-income risk**.

A sub-category here is what is sometimes referred to as ritual risks (Fafchamps, 1999). In many societies, social customs dictate that expenditures be incurred to mark particular events. Efforts to meet specific social obligations – wedding ceremony, dowry payment, funerals – can be an important engine of poverty, as households often have to enter into debt to meet them although, at the same time, these social obligations are extremely important in cementing and extending social networks. Social networks are the basis for informal safety net mechanisms, which enable poor people to draw on the income or assets of others in times of need. As such, they are an important component of coping. They can also form an important building block to livelihood strategies, by providing people with information about employment or investment opportunities.

2.2. Vulnerability

Vulnerability means a defencelessness, insecurity and exposure to risk, shocks and stress, and not simply a lack or a want. Vulnerability is the degree of exposure to risk, and the capacity of households or individuals to prevent, mitigate or cope with risks. Vulnerability is thus linked with levels of net assets (stocks) rather than flows of income or consumption, and combines exposure to a threat, with susceptibility or sensitivity to its adverse consequences (Devereux, 2001). Vulnerability in rural areas is composed of (i) rural risks, i.e. any event that could make the household income or crop output fall below a minimum disaster level, including climatic factors, price fluctuations, access to markets and food, etc., and (ii) seasonal stress.

Analysis of vulnerability involves identifying not only the risks (or threats) but also the resilience in resisting or recovering from the negative effects of a changing environment. The means of resistance or coping strategies are the assets, entitlements and capabilities that individuals, households and communities can mobilise and manage in the face of hardship (Moser and Norton, 2001).

Low levels of assets are an important determinant of poor peoples' vulnerability. This, however, is often rooted in adverse institutional structures (see Brief No. 1, Section 2.4), impossible to overcome by asset creation and resource improvement alone. Specific pro-poor policies and interventions are needed that reduce poverty and vulnerability and improve people's resilience (for a discussion of pro-poor policies, see Brief No. 10).

Box 1: Causes of vulnerability in the Sahel

- Worsening climate trends putting proven coping strategies under pressure
- Growing demands resulting from spatially unequal population trends (e.g. water: industrial and domestic use in urban areas versus irrigation in rural areas)
- Reliance on natural resources (e.g. land, irrigation water, livestock, etc.)
- Inadequate and inappropriate investment in intensification of agriculture
- Undermining of pastoral production systems (e.g. policies favouring alternative production systems, sedentarisation programmes, etc.)
- Inappropriate privatisation of veterinary and agricultural support systems
- Land tenure system and insecurity of access to land and other natural resources
- Lack of investment in protecting common property
- Lack of economic alternatives trapping poor people in rural production systems
- Insufficient income diversification opportunities
- Lack of investment in education and health
- Weak governance and powerful actors
- Overexposure to inequitable markets (e.g. relative prices of meat and food crops are to the disadvantage of poor people depending on livestock)
- Inadequate infrastructure
- Inappropriate market liberalisation

(*Source*: Trench, et al., 2007)

3. Risks and vulnerability as drivers and maintainers of poverty

Risks and shocks can de-capitalise the poor, and trap them in poverty from which they are unable to escape. Once households fall below critical asset thresholds they become trapped into survival coping strategies, which can further erode the individual's or household's asset base and make it increasingly difficult to build up their assets (Sabates Wheeler and Haddad, 2005).

Drivers of poverty are shocks that cause individuals or households to fall or slide into different types of poverty – seasonal, recurrent, severe, multidimensional (see Brief No. 2) – some of which are hard to escape. Seasonality can cause particular problems in rural areas. In tropical climates, for example, which have clearly separated wet and dry seasons, the end of the dry season and start of the rainy season is a particularly difficult period. Known as the 'lean season', as stored food has often been exhausted, newly planted crops have not yet matured and income from the sale of the previous harvest is spent. Also, workloads connected with agricultural production during this period are high. As such, energy needs are high, but food availability is low (unless the rural household has off-farm and non-farm income) (Chambers et al., 1981), and the disease burden tends to be highest at this time as well

Maintainers of poverty make poverty persistent and trap people in poverty. Barriers to accumulating or accessing assets and pursuing opportunities are key maintainers of poverty. Most important maintainers are (CPRC, 2004):

- Economic growth which is low, narrowly based or absent, which means that there are few opportunities for poor people to raise their incomes and accumulate assets;

- Social exclusion and adverse incorporation (see Brief No. 1), which interact so that people experiencing discrimination and stigma are forced to engage in economic activities and social relations that keep them poor – in poorly paid, insecure work; with low and declining assets; with minimal access to social protection and basic services; and at risk of being dependent on a patron;

- In disadvantaged geographical and agro-ecological regions poor resources, weak economic integration, poor infrastructure, social exclusion and political marginality can create 'spatial poverty traps';

- High capability deprivation, especially during childhood – poor nutrition, untreated sicknesses, lack of access to education – which can diminish human development irreversibly;

- In weak, failing or failed states, the above maintainers are reinforced as there are few economic opportunities, health services are lacking, social protection does not reach the poor, violence destroys assets and discourages investment, and poor people have few means of asserting their rights;

- Weak and failed international cooperation during the 1980s and 1990s which, in places, contributed to a deepening poverty through over-rapid structural adjustment and economic liberalisation and led to aid allocation away from countries with large numbers of chronically poor people.

4. Strategies of the poor to deal with risks and stress

People have developed a large range of strategies to reduce and deal with risks, resulting from both endogenous and exogenous shocks and stresses. Some are more individual or household-level strategies, whereas others involve groups of people. More formal mechanisms are found at national level (see Table 2).

Prevention strategies are strategies implemented before a risk event occurs. They can be targeted at reducing vulnerability and increasing resilience, and include measures designed to avoid risks, such as selecting and modifying the environment to settle (i.e. settling in areas that are less prone to diseases), specialising in highly adapted livelihood strategies (e.g. breeding plant and livestock species adapted to a specific climatic situation), diversifying livelihoods (e.g. combining farm and non-farm income generation activities), and attaining a high degree of self-sufficiency and flexibility. They can also include more technical solutions, such as preventive healthcare in the form of vaccination or enforcing building standards in areas prone to earthquakes. Prevention strategies implemented by households or individuals may be very costly and could even be a cause for (income) poverty, for instance when farmers grow drought-resistant but low-return crops (IDS, 1989; Hoogeveen et al., 2005).

Whereas preventive strategies reduce the probability of the risk occurring, **mitigation strategies** help individuals reduce vulnerability or the impact of a risk. For example, households may pool risks through informal or formal insurance mechanisms. Mitigation strategies can also be implemented in isolation, for instance when a household or individuals save money or when food is stored in preparation for an adverse weather event.

Strategies reducing exposure to risks cannot eliminate risks altogether. Some risks remain, therefore, and must be dealt with *ex post*, that is, after the shock has occurred. **Coping strategies** dealing with shocks tend to be sequenced, with households and individuals adopting strategies which limit long-term damage. Classical patterns of sequential responses build up from minor adjustments, such as diet changes or increased reliance on common property resources, to deferring expenditures (e.g. for medical treatment), relying on public or private transfers, to the disposal of assets (e.g. sale of livestock, farm implements, jewellery or land), to major shifts such as migration (IDS, 1989; Hoogeveen et al., 2005).

Coping strategies listed above mainly include individual strategies. Societies have developed a number of strategies aimed at sharing the burden of risks:

- Establishing social networks at various spatial levels (e.g. neighbourhood, village, across villages, across agro-ecological zones, rural-urban, etc.);
- Developing norms and rules governing access to common property resources and sharing of assets;
- Insurance systems, including patronage.

Table 2: Mechanisms for managing risks

	Informal mechanisms		Formal mechanisms	
Objective	**Individual and household**	**Group based**	**Market based**	**Publicly provided**
Reducing risk	■ Preventive health practices ■ Migration ■ More secure income sources	■ Collective action for infrastructure, dikes, terraces ■ Common property resource management		■ Sound macroeconomic policy ■ Environmental policy ■ Education and training policy ■ Public health policy ■ Infrastructure (dams, roads) ■ Active labor market policies
Mitigating risk *Diversification*	■ Crop and plot diversification ■ Income source diversification ■ Investment in physical and human capital	■ Occupational associations ■ Rotating savings and credit associations	■ Savings accounts in financial institutions ■ Microfinance	■ Agricultural extension ■ Liberalized trade ■ Protection of property rights
Insurance	■ Marriage and extended family ■ Sharecropper tenancy ■ Buffer stocks	■ Investment in social capital (networks, associations, rituals, reciprocal gift giving)	■ Old age annuities ■ Accident, disability, and other insurance	■ Pension systems ■ Mandated insurance for unemployment, illness, disability, and other risks
Coping with shocks[a]	■ Sale of assets ■ Loans from money-lenders ■ Child labor ■ Reduced food consumption ■ Seasonal or temporary migration	■ Transfers from networks of mutual support	■ Sale of financial assets ■ Loans from financial institutions	■ Social assistance ■ Workfare ■ Subsidies ■ Social funds ■ Cash transfers

Note: The white shaded area shows household and community responses through informal mechanisms to improve risk mitigation and coping. The dark shaded area shows the publicly provided mechanisms for insuring against risk and coping with shocks—the social safety net.
a. Publicly provided coping mechanisms can also serve risk mitigating purposes if they are in place on a permanent basis.
Source: Adapted from Holzmann and Jorgensen (2000).

(*Source*: World Bank, 2001: 141)

Box 2: Coping strategies in rural Ethiopia

Poor rural households in Ethiopia are exposed to a large number of shocks, including harvest failures resulting from droughts, floods, hailstorms or pests, health and labour problems (illness and death), loss of livestock, especially loss of ploughing oxen, land loss, loss of other assets, price shocks for agricultural products, political changes, banditry and war.

Rural households have developed a variety of coping strategies aimed at dealing with these shocks. Especially those coping strategies at the **individual** level are often part of a process of adverse incorporation – people are forced to engage in short-term survival strategies which have implications for their future welfare. Examples are eating wild food, which causes health problems, or women resorting to prostitution, which involves health risks and lowers social status. Coping strategies at the **household** level depend on occupation, time, the household structure and the position in the life cycle. Regular strategies dealing with income loss resulting, for example, from harvest failure, include:

- Withdrawing children from school so that they can work in the home, on the family farm or in wage employment;
- Marrying off girls at an early age to reduce the number of household members depending on own food reserves;
- Reducing food consumption by leaving out one meal per day;
- Diversifying the cropping system towards more drought-resistant but lower-yielding crops;
- Selling livestock to buy food grains; or
- Diversifying income sources, mainly by engaging in safety net programmes (e.g. food-for-work schemes) or by temporary migration.

Community-level strategies include increasing the number of livestock grazed on common property resources or collection of firewood for sale from communal forests. Both strategies may lead to increased resource degradation. Male migration in search of wage labour is common, but may lead to increased workloads for women and children. Social networks and patronage are important in rural Ethiopia, and become even more important in times of hardship. However, there is the danger of entering into unwanted dependencies.

(*Source:* Dercon, 1999; Bevan, 2000; Ludi, 2004)

Managing risks does not come for free. Individuals and households have to make choices about where to invest scarce resources in view of reducing their exposure to risks or coping with them. For example, households have to ask themselves whether scarce resources should rather be invested in improving human capacities through education or in establishing stores and building up reserves which can be cashed in when there is a need. If households decide to migrate as a coping strategy, they have to balance the short-term and long-term costs and consequences. It might be easier, for example, for male and young household members to migrate than it is for women and elders, who might value leaving their ancestral lands as a loss bigger than the income gains they might achieve when migrating. Often, individual household members have different preferences for coping strategies, based on their experiences, cultural norms and beliefs, social and economic position, available material and non-material assets and capabilities, and perceived or actual opportunities. Also, the choice and sequencing of coping strategies will depend on the nature of poverty – whether it is seasonal or chronic.

Although individual risk management and coping strategies are able to deal with a wide variety of risks and shocks, poor individuals and households often lack the resources to reduce vulnerability to risks or to cope with shocks. Mechanisms to deal with risks need to be developed at macro levels too. To address risks and vulnerability adequately, approaches at multiple levels are necessary, ranging from direct interventions to policy changes (see Table 2).

5. Conclusions

Risk aversion is a core strategy of poor rural households, given the multitude of risks they face related to environmental factors, human capacity and status, access to markets and market performance, and political circumstances. Risks faced by poor people and their vulnerability or exposure to negative shocks and stress have long been underestimated in development cooperation. Measures to reduce risk and vulnerability are gaining importance on the development agenda, and it is increasingly recognised that reducing risks and vulnerability faced by poor people is essential for achieving pro-poor growth, as it will allow them to engage more fully in markets. Risk reduction thus has important production as well as social protection functions (Farrington, 2005).

A major difficulty concerning measures aiming at reducing risks and vulnerability is that they can be implemented at many different levels, ranging from the macro level (e.g. macroeconomic stability, reinforcing the rule of law) to the micro level (e.g. enhancing asset accumulation, targeted transfers) and in many different ways – by the state, by NGOs operating in the public interest, or by the private sector.

Increasingly, concepts of **social protection** are gaining importance as an approach to address risk and vulnerability. Social protection includes 'public actions taken in response to levels of vulnerability, risk and deprivation which are deemed socially unacceptable within a given polity or society', and is mandated either by the state or by organisations such as NGOs claiming to operate in the public interest (Slater et al., 2006). One approach, Social Risk Management, developed by the World Bank, incorporates social protection by focusing on three strategies to deal with risks (prevention, mitigation, coping), three levels of formality of risk management (informal, market-based, publicly managed) and a wide range of actors (individuals, households, communities, NGOs, governments and international organisations). Social protection goes far beyond 'social sectors' (e.g. health, education, labour markets) to include 'social assistance' (e.g. cash transfers to vulnerable groups) to act as a 'trampoline' capable of helping those who might temporarily drop out of productive activity to 'bounce back', and as a means of support to the critically vulnerable (Farrington, 2005). Social transfers to ensure a minimum standard of living and access to free health services and education for the poor are important components of social protection in OECD countries. Spending on social transfers can be significant and is at on average 8% of GDP in OECD countries (Tabor, 2002 in Harvey et al., 2005). Is such an approach feasible in developing countries? There is growing evidence that **cash transfers** can deliver measurable welfare benefits and stimulate economic growth. Whether or not cash transfer schemes are successful depends on targeting, on the robustness and efficiency of delivery mechanisms, on corruptibility, and on affordability. Although cash transfers can play an important role in relief and development, they are not a panacea for poverty reduction, as markets, the bureaucracy and the political system still leave poor people in a disadvantaged position (Harvey et al., 2005).

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