Risk management of vulnerable rural households in southeast Asia

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Abstract:
Access to formal insurance services is scarce in developing countries. Based on empirical evidence, major risks and risk management strategies of ethnic minority farm households in mountainous Northern Vietnam are presented and analyzed. The paper investigates the theoretical links between poverty, vulnerability and risk. The concept of vulnerability to poverty lays the analytical framework. Results suggest that limited endowment with and access to capital assets and service institutions, as well as human and economic risks are the main components affecting rural livelihoods. Constrained access to adequate risk management strategies increase household's vulnerability, drowning them more and more in poverty.

Keywords: *Risk Management, Vulnerability, Southeast Asia, Vietnam*

Introduction

Subsistence farmers in developing countries face many types of dangers in their everyday life. With low livelihood resilience at the best of times, unmitigated income and consumption shocks can have devastating consequences (Fafchamps and Lund, 2003). In mountainous Northern Vietnam, poor and near-poor farm households endure manifold risks and income shocks, which threaten their existence. Normally, insurance systems would step in to assist. In developing countries however, where access to formal insurance services is hardly available, rural farm households have developed alternative risk management strategies. The better-off households might have access to so-called (ex-ante) adaptive risk management strategies. The accumulation of savings in cash or kind counts as such an adaptive risk management strategy. Poorer households have to rely primarily on (ex-post) risk coping strategies, for instance the sale of livestock. In contrast to risk management strategies, risk coping strategies, however, enhance the long-term level of vulnerability.

According to Ligon and Schlechter (2003), economists have long used poverty measures to describe the well-being of less fortunate households. Meanwhile, it is obvious that a household's well-being depends not just on its average income or expenditures, but that risk plays an important role, too. While the concept of risk has been extensively considered by the scholarship, it has often remained on the periphery in the design of anti-poverty policies. Hence, in order to better understand the highly diverse livelihood strategies of vulnerable rural farm households, this paper investigates the theoretical links between poverty, vulnerability and risk. The concept of vulnerability to poverty[1] serves as analytical framework. Focusing on the concept of vulnerability and its measurement, there are numerous dimensions, definitions and methods available since it's emerging in the course of the 1980s. However, there is no consensus yet on an universal theoretical framework. Up to date, the implementation of many theoretical suggestions and policy recommendations is largely impossible due to the absence of intertemporal data on shocks, risks, their determinants, and possible coping mechanisms at the household level. These issues have been incorporated in our empirical research. Major risks and shocks that rural ethnic minority households face in Northern Vietnam will be analyzed. In addition, the applied risk management strategies will be presented.

[1] A forthcoming, extended version of this paper will include the calculation of a vulnerability index as well as the analysis of the vulnerability to poverty of ethnic minority farm households in Northern Vietnam (based on own empirical data).

The paper is organized as follows. The economic situation in Vietnam, focusing on the rural Northern Uplands will be summarized in the next chapter. Thereafter, a brief conceptual overview will be given, clarifying the links between the concepts of poverty and vulnerability. Next, the risk management strategies (adaptive, ex-ante as well as ex-post coping strategies) of ethnic minority households will be analyzed and presented. The last chapter concludes.

Economic situation in Vietnam

Despite the well-known achievements of the *doi moi* reform process[2], which was launched in 1986, almost one third (28.9% in 2007) of Vietnam's total population (85 million in 2007) is still living below the national poverty line (UNDP 2009). Especially the mountainous, rural areas of Northern Vietnam, which are mainly populated by ethnic minorities[3] (e.g. Black Thai, Tay, Hmong, etc), are underdeveloped. Following Minot and Baulch (2005) as well as Gaiha et al. (2007, 6), "poverty rates, which decreased in urban areas, remained much higher in rural areas. Especially in high mountain areas, poverty is a major problem of ethnic minorities (e.g. in 2002, 69% of ethnic minorities were poor, in contrast to 23% of the Kinh [Vietnamese] and Chinese)".

Vietnam has made good progress concerning the implementation of the United Nations' *Millennium Development Goals* (*MDGs*). Nevertheless, regional disparities are still apparent. According to United Nations Vietnam (2009), poverty levels are already meeting the standards. Nevertheless, there are still many challenges, including the reduction of child mortality as well as the improvement of maternal healthcare and the quality of primary education. As "it is estimated that 20 million children (59% of all children) still lack access to proper sanitation", major improvements are necessary, particularly in remote and ethnic minority areas. Even though Vietnam is well on its way to achieving its goals to promote gender equality in primary and secondary education, "women continue to face serious obstacles – including poverty, limited access to higher education, and employment opportunities, as well as persistent discriminatory attitudes and behaviour" (United Nations Vietnam 2009, 1f).

Focusing on the Northern Uplands[4], it may be summarized that farming remains the most important economic sector and the population in this region is increasing fast. To date, the natural resources have been depleting as well as the natural environment has been degrading seriously due to unsustainable expansion of agriculture on sloping lands. Once again, the success of the agricultural reforms in the Deltas had little impact on the Northern Uplands. Currently, the Northern Uplands remains the poorest regions in the country. With the recent enforcement of forest protection polices, poor ethnic minority farmers are in a more difficult situation because (additional) incomes from harvesting natural forests are no longer available.

The governmental infrastructure programs (i.e. the Program 135) have increased accessibility but also increased migration to the regions and widened the gaps between the rich and the poor and among different ethnic groups. Infrastructure development alone is not sufficient to address the poverty and restoration of the degraded environment. If the current trends continue, there are high risks that poverty will persist while the increased population will further put pressure on the environment. In addition, the vulnerable situation of rural households in Northern Vietnam is intensified by the lack of a formal agricultural or more general rural insurance markets (Vandeveer, 2000) and by a non-functioning or non existent social welfare system. For instance, health insurance[5]

[2] According to the World Bank (2008), Vietnam's average annual real GDP growth was 7.3% and per capita income grew by 6.2% (1995-2005). The economy has proven resilient to shocks and negative impacts from SARS, avian influenza, poor weather, high commodity prices, inflation, and anti-dumping suits. In US dollar terms, income per capita rose from US$260 in 1995 to a 2007 level of US$835.

[3] For more detailed information concerning ethnic minorities in Mainland Southeast Asia please refer to ADB (2002), Friederichsen and Neef (2010), Michaud (2000) as well as Rambo and Jamieson (2003).

[4] The next paragraphs are based on World Bank (2006, 32).

[5] Even if people possess health insurance cards, they usually face additional expenses including costs for transport, special treatment and medication. People staying in a hospital must cover the expenses for a second family member accompanying

is limited to a few groups (ILO, 2004). All other households have to rely on sub-optimal coping strategies in the event of a crisis, dependent on their endowment with and access to resources and capital assets.

Admittedly, state interventions are common during covariate shocks. For instance, in the event of a natural calamity such as a flood or a drought, the State Bank of Vietnam can postpone or terminate the term of payment of formal loans disbursed through government schemes or through the state owned banks (Izumida and Duong, 2001). However, in the incidence of idiosyncratic income shocks, rural households in Vietnam have to rely mainly on informal mutual aid schemes within their social networks to cope with shocks and to reduce their risk. Usually, immediate and extended kin provide material and financial help and/or inexpensive farm labour. This is in line with the findings of Dalton et al. (2002), Rosenzweig and Binswanger (1993) and others who showed that the family plays a vital role within the social risk-sharing networks as well as in daily social life.

Poverty and vulnerability

According to van Dillen (2004, 8), "the term 'vulnerability' found its way into common use in the social sciences in the course of the 1980s". Chambers (1989, 1) defines that it "refers to exposure to contingencies and stress, […] which is defencelessness, meaning a lack of means to cope without damaging loss". Extensive literature review[6] on 'vulnerability' reveals that it "has diverse but related meanings in different academic disciplines. In the social sciences in general, and in economics in particular, vulnerability is perceived as the existence and the extent of a threat of poverty and destitution (Dercon, 2005). In the natural sciences, in general, and environmental sciences and geography in particular, vulnerability refers to the susceptibility of a household or community to the impact of natural hazards or climate change (De Leon, 2006)" (Makoka 2008, 6-7).

Following Dercon (2005, 9), "economic vulnerability refers to risks faced by households and/or communities arising from exogenous shocks to systems of production, distribution and consumption (Warner, 2007). In the economics literature, however, this is referred to as 'vulnerability to poverty'. One of the most important components in the concept of vulnerability to poverty is 'risk'. The term 'risk' is defined as potentially dangerous event that is likely to cause a loss in individual and/or household welfare when it occurs (Chaudhuri, Jalan and Suryahadi, 2002; Dercon, 2002; Harrower and Hoddinott, 2004). In the same vain, a 'shock' is defined as an actual occurrence of a risk." Major risks and shocks, which affect vulnerable livelihoods of ethnic minority farm households in Northern Vietnam, will be presented in the next chapter, after a brief conceptual overview of poverty, vulnerability and vulnerability to poverty.

Poverty and vulnerability are closely interlinked and while poverty is usually defined as economic deprivation (lack of income), vulnerability entails "the relationship between poverty, risk and efforts to manage risk" (Alwang, Siegel and Jorgensen, 2001: 1). Households may not be poor at present. They may be, however, vulnerable-to-poverty in the future. Poor households without potential to escape poverty are also characterized as vulnerable (Conway and Turk, 2001). Moreover, poverty is a static and vulnerability a dynamic concept. While the poor can be quantified relatively easily ex-post despite the many dimensions of poverty (absolute poverty with regard to food consumption, housing etc. and relative poverty with regard to income), quantification of the vulnerable is much more difficult due to the dynamic and ex-ante perspective. Nevertheless, a thorough understanding of the characteristics and priorities of the poor and vulnerable is crucial to formulate effective strategies for reducing the share of those who are currently poor and will remain in poverty and those of the vulnerable non-poor (Chaudhuri, Jalan and Suryahadi, 2002; Alayande, 2004).

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the sick to provide for the basic needs of the sick and themselves. For more detailed information concerning health and access to social security in Vietnam, please refer to Fischer and Salehin (2009) and Tran (2004).

[6] Alwang, Siegel and Jorgensen (2001) introduce different definitions, discuss various views and provide important references. More recently, Dercon (2005) discuss on risk, vulnerability and its links with poverty. Gaiha, Katsushi and Imai (2007) focus on vulnerability and poverty dynamics in Vietnam. Makoka (2008) reviews theoretical and empirical literature on vulnerability to poverty, risk management strategies and consumption smoothing.

Like poverty, vulnerability is a multi-dimensional concept, based on both, monetary (relative) and non-monetary (absolute) indicators.[7] The specification of the future over which shortfall in welfare could be, represents one of the major differences between poverty and vulnerability. The specification of the period over which to measure vulnerability affects the level and magnitude of vulnerability. The longer the period, the higher is the probability of a household falling under a certain poverty-line (Tesliuc and Lindert, 2002). The concept of vulnerability is thus forward looking: Vulnerability is seen as a certain probability that a household would find itself poor in the future or that a household that is currently poor will remain in poverty in the future (Conway and Turk, 2001; Chaudhuri, Jalan and Suryahadi, 2002). Contrary to the ex-post concept of poverty, vulnerability is not directly observable as it is an ex-ante concept. The seminal review of poverty and vulnerability by Alwang, Siegel and Jorgensen (2001) shed substantial light on the poverty-to-vulnerability issue.[8] By way of summary, poverty and vulnerability to poverty are two sides of a coin. The observed poverty status of a household (defined as whether or not the consumption expenditures are above or below a given poverty-line) is the ex-post realization of a state; the ex-ante probability of which can be taken to be the household's level of vulnerability (Chaudhuri, Jalan and Suryahadi, 2002).

According to Gaiha, Katsushi and Imai (2007:2), “there has been a surge of interest in measuring vulnerability in developing countries (e.g. Chaudhuri, Jalan and Suryahadi, 2002; Dercon, 2005; Gaiha and Imai, 2004; Gaiha and Imai, 2006, Hoddinott and Quisumbing, 2003a & b; Ligon, 2005; Ligon and Schechter, 2003).” All of these studies suggest developing special anti-poverty policies to address vulnerability in remote rural areas, where risks are boosted by lack of formal insurance, credit market imperfections, and weak infrastructure. “Low income households and/or those living in remote areas are also subject to idiosyncratic risks arising from morbidity, dependence on a single adult male for much of household income and exclusion from community networks of support” (Gaiha, Katsushi and Imai, 2007:3).

Risk management strategies of ethnic minority households

As mentioned above, Vietnam has experienced a remarkable reduction in poverty in recent years. However, it does not necessarily imply that the reduction is durable. In fact, there are fears that the pace of poverty reduction is slowing down or even reverse (Gaiha and Thapa, 2006). According to Dercon (2005, 10f), “despite the fact that households actively try to manage risk, shocks affect them, and at best, the evidence suggests only partial smoothing of welfare and nutrition. Assets, and more in general, households’ livelihoods and their ability to generate future income is affected, in part due to the necessity to cope with shocks, so that assets are sold-off, or, more directly, the asset base is often instantly affected by the shocks – such as death of livestock or a loss of human capital due to illness or temporary poor nutrition.” In rural livelihood systems, the household consumption is inseparable from the agricultural production activities. Literature review on risk and vulnerability indicates that rural households in developing countries are usually affected by multiple shocks (e.g. Christiaensen and Sarris, 2007; Dercon, 2000; Hoddinott and Quisumbing, 2003; Makoka, 2008).

Data collection

Quantitative and qualitative field research took place in ten villages, in Ba Be and Pac Nam districts in Bac Kan province, as well as in Yen Chau district in Son La province (2004-05). Both provinces are located in the mountainous regions of Northern Vietnam and belong to the poorest provinces of the country. Data concerning vulnerability and risk management of ethnic minority farm households were collected at different administrative levels in both provinces. Key informant interviews with

[7] Poverty and vulnerability can be assessed through monetary parameters (for instance income and consumption expenditures), or non-monetary dimensions, such as food consumption, education, anthropometry and mortality (Deaton, 1997; Sahn and Stiffel 2000; Baulch and Masset, 2003).

[8] They comprehensively reviewed the economics, sociology, and environmental literature, the so-called sustainable livelihood, food security and nutritional, and disaster management literature.

officials of so-called mass organizations (e.g. the farmers union and the women's union) and political cadre at the commune and district level provided general information and gave hints on common risks that rural households usually face. Special focus was laid on difficulties concerning livestock as well as information on access to public services (e.g. finance, extension, education, health care etc.) and differences concerning the wealth strata[9] of rural livelihoods.

At the village level, general household interviews with a structured questionnaire[10] were conducted among 203 households with 670 adult[11] household members. Beside collecting basic data on demographic characteristics, asset endowment and livestock ownership, special emphasis was laid on financial transactions (effective demand and supply for savings, credit and insurance services) and social networks as well as on experienced and expected difficulties and applied risk management strategies of the interviewee's household[12]. Hence, the respondents were asked to name those shocks/difficulties, which severely influenced the livelihoods of their households during the last year and the last two to five years respectively. The majority of the surveyed households experienced multiple shocks in both periods. Only a few households did not have to endure any difficulties during the recall period. In addition, the respondents were asked to name future risks that they fear might affect their household, as well as risk management strategies they have previously used and those, which they intend to apply in future. Furthermore, 44 male and female respondents joined complementary, visualized participatory rural appraisal (PRA) sessions.

Results and Discussion

Own empirical evidence (see Table 1) confirms existing data concerning major shocks and risks. As anticipated, *death of livestock* and *sickness of household members* (working and non-working) were named as last years' top two livelihood shocks. The surpassing high percentage of livestock loss might be explained by very cold weather during winter and the outbreak of the Avian Influenza. Surprisingly, the figures for the previous period (two to five years prior to the survey) are different from the last-year-recall. Obviously, most of the respondents remembered to have spent a lot of money to *rebuild the house and repair damages* (mainly caused by storm) as well as they faced *production factor risks*, including lack of capital, manpower, land.

According to Makoka (2008, 129), research "shows that wealthier households experience as many shocks as poorer households. However, the type of shocks that poor households face is often different from those of wealthier households". Overall, own empirical research confirmed this statement. Focusing on poor households, the top two difficulties during the last two to five years were *expenditures to rebuild the house and repair damages* (33%) and *sickness of household members* (14%). Furthermore, they were seriously affected by *lack of food* (12%) and *expenditures to replace dead livestock* (12%). At the same time, both, the average (21%) and the better-off (24%) households stated, that *production factor risks* are most prevalent. While *sickness among household members* is the second most common difficulty for the average households (20%), it is only ranked third (14%) for the better-off households. Vice versa, *expenditures to rebuild the house and repair damages* are second most frequent (17%) for the better-off and ranked third (18%) for the average households. Finally, focusing on last year, only the rich households' difficulties vary from the other wealth groups and the total results.

[9] In Vietnam, the Government classifies households once a year according to their living standard into one of five wealth classes: 'hungry', 'poor', 'average', 'better-off', or 'rich'. The ranking is based on the household's monthly cash income or rather in terms of rice in kg/month/person.

[10] No multiple choice questions, respondents answered questions openly.

[11] Including all family members aged 18 and older. The dependency ration (including those under the age of 15 and over the age of 64) of all households is 59%.

[12] For more details concerning the demand of livestock insurance and the utilization of social networks in case of a livelihood emergency, please refer to Fischer and Buchenrieder (2009) and Fischer et al. (2010) respectively.

Table 1. Main Shocks Occurring in the Course of Last Year as well as Two to Five Years prior to Survey (in percent of households).

Shocks / Difficulties (Expenditures)	**Last year** household classified as					**Two to five years prior to survey** household classified as			
	poor	average	better-off	rich*	**total**	poor	average	better-off	**total**
Death of livestock	*20*	*26*	*35*	..	***25***	2	4	7	**4**
Sickness of household members (working and non-working)	*17*	*13*	*13*	..	***13***	*14*	*20*	*14*	**18**
Production factor risks	12	11	8	*20*	**11**	*9*	*21*	*24*	***19***
Insufficient harvest - lack of food	7	9	5	7	**9**	*12*	8	3	**8**
Replacement of dead livestock	9	11	5		**9**	*12*	6	0	**6**
Rebuild house and repair damages	12	7	5	*13*	**8**	*33*	*18*	*17*	***21***
Expenditures for ceremonies	5	5	3	7	**4**	7	4	7	**5**
Crop loss (due to bad weather)	4	3	3	..	**3**	2	4	7	**4**

Source: Own data
Note: Multiple answers were possible, thus percentage may not sum up to 100.
* None of the 'rich' households experienced any difficulties during the past two to five years prior to this survey

Next, we explore the risk management strategies of ethnic minority households in Northern Vietnam (see Table 2). Following Makoka (2008, 134), there is scholarly evidence that households living in risky environments devise strategies to deal with the risk both before the shock occurs (ex-ante risk management) and after the shock has manifested itself (ex-post coping strategies) (cf. Alderman and Paxson, 1994; Dercon, 2000; Holzmann, 2001).

The analysis of own empirical data revealed that accumulation of savings is so-far the only adaptive strategy that is applied by ethnic minority farmers in Northern Vietnam. Almost half (46%) of the surveyed households are saving. On average, savings are kept at home in cash (39%), in kind, either in crops (12%) or in livestock (43%) or both, in cash and kind (5%). Once again, the preferred savings behaviour varies among respondents of different wealth groups. While the majority of the poor (47%) and the average (49%) households prefer to save in kind (in livestock), the better-off (80%) and the rich (57%) households prefer to save in cash. Only one respondent mentioned to save in the bank, due to safety reasons. More than half of the respondents (57%), who mentioned to save financially, argued that the ability to cover expenses in case of an emergency, especially health problems, is the main motivation. Another 10% stated explicitly that the savings will be used to pay for medicine and hospital visits. While 7% will use their savings to buy food, 6% will spend it on education or livestock respectively. The other respondents are saving money to invest in consumer goods (5%) or spend it on inputs, livestock and consumer goods (4%). Finally, some households save to cover expenses for ceremonies (2%), construction/repair of houses/storages (1%) or other purposes (2%).

Usually, one of the most common risk management strategies in developing countries is income diversification. However, in the mountainous regions of Northern Vietnam, the members of the different ethnic minority groups only have limited options for income diversification. Hence, most households have to rely primarily on (ex-post) risk coping strategies, which enhance the long-term level of vulnerability. In the research area, the most common coping strategy is the sale of livestock (cf Table 2). While wealthier households are usually capable of covering high expenditures by selling big ruminants (i.e. cows or buffalo), poor households only possess some pigs or chicken, which can be sold in the case of a livelihood emergency. Empirical research revealed that revenues from selling cash crops, which are also mentioned as one of the main coping strategies in the last year, are often significantly reduced by debt-service payments (e.g. for inputs, rice for consumption) to traders and shops. The remaining money is mainly spent on school fees or on consumer goods. Once again, poor households are worse off, as they normally have less cropping area and higher debts (especially from buying rice to compensate the household's lack of food).

Table 2. Risk Management Strategies Applied in the Last Year and Two to Five Years prior to Survey (in percent of households).

Risk Management Strategies	Last year					Two to five years prior to survey			
	household classified as					household classified as			
	poor	average	better-off	rich*	**total**	poor	average	better-off	**total**
Adaptive (ex-ante):									
Withdrawal of savings/ Divestment	6	5	25	33	8	7	6	14	7
Coping (ex-post):									
Credit total					**25**				**32**
Credit from bank (formal)	9	13	3	20	11	21	13	14	15
Credit from family/relatives (informal)	17	7	..	..	8	21	12	7	13
Credit from other sources	9	5	3	13	6	9	2	3	4
Sale of crops/livestock total					**31**				**33**
Sale of crops	19	12	18	20	14	12	9	3	9
Sale of livestock	5	18	18	..	15	9	18	28	18
Sale of crops & livestock	1	2	3	7	2	0	9	3	6
Others	12	8	..	..	**8**	9	8	10	**9**
No strategies applied	*22*	*30*	*33*	*7*	***28***	*12*	*23*	*17*	***20***

Source: Own data

Note: Percentage is calculated for applied strategies as well as a 'no strategies applied' option. Households that provided no information are not included in this table, thus N=199.

Further common strategies include formal loans from banks and informal credits from relatives and friends. The later are crucial for poor households that have no/not sufficient access to formal loans. Own research confirms findings from Barslund and Tarp (2008) that formal loans in Vietnam are almost entirely for production and asset accumulation. Although the issue of the fungiblity of money might be raised, and the validity of some of the data might be questioned (farmers are usually requested to sign a statement to the effect that the loan will be used for productive purposes only), a good share of formally borrowed money is used for productive purposes compared to other countries. Up to date, there are no formal loans available for healthcare or hospital visits. A complex administrative system and language difficulties are further constraints faced particularly by members of ethnic minority groups – especially women. Moneylenders play only a small role in the informal financial sector of rural Vietnam as most loans are given by relatives or friends and are interest-free. The main reasons why formal finance is rarely used to ease shocks, however, is that it takes time to apply for a loan and households are locally screened; any income or consumption shocks may be reported to the relevant credit officer and the credit is consequently denied.

As formal safety nets to balance arising shocks are not accessible or simply non-existent, alternative strategies must be adopted. The formation, maintenance and use of social networks is one of the most important risk-management strategies of vulnerable households in Northern Vietnam. Own research[13] revealed that these networks are able to provide basic support (e.g. by providing informal loans for relatives), but do not suffice to buffer a major crisis completely. Thus, the households are still forced to sell assets, primarily livestock, in the event of a livelihood emergency. The situation becomes even more acute where a household loses a debt-financed animal, which immediately increases the household's vulnerability, substantially limits its long-term livelihood strategies and very often directly consolidates poverty or makes them slip into poverty. As a consequence, poor households will remain vulnerable to shocks despite the presence of an informal insurance system.

Finally, focusing on the 'no strategies applied' option, own research suggests that on average, 20-30% of all shocks could not be mitigated. During the last two to five years prior to this survey, major difficulties - where no coping strategies were available - include lack of capital (29%), lack of food (24%) and loss of livestock (17%). During the year immediately prior to the survey, as many as 73% of all households were not able to cope with livestock loss and lack of capital (8%).

[13] See Fischer et al. (2010).

Conclusion and policy recommendations

Despite the well-known achievements of the *doi moi* reform process and the (partially) successful implementation of the *MDGs*, Vietnam's Northern Uplands are still severely underdeveloped. Research results suggest that limited endowment with and access to capital assets and service institutions, as well as human and economic risks are the main components affecting rural livelihoods. Poor and near-poor ethnic minority farm households endure considerable livelihood vulnerability due to various income shocks. To buffer these shocks, households apply different risk-management strategies. While better-off households often have access to so-called (ex-ante) adaptive risk management strategies, poorer households have to rely primarily on (ex-post) risk coping strategies, which enhance their long-term level of vulnerability. As formal safety nets are not accessible or simply non-existent, alternative strategies must be adopted. Besides 'dissaving', the formation and maintenance of social networks is currently one of the most important adaptive risk-management strategies. Focusing on risk coping strategies, households of all wealth strata mainly rely on sale of livestock and sale of crops, especially maize. Both strategies are disadvantageous for poorer households that lack sufficient capital assets. Usually, they neither possess adequate physical capital (e.g. livestock) nor natural resources (land).

Research results point to a number of policy issues that need to be addressed if household vulnerability to poverty is to be significantly reduced among ethnic minority households in Northern Vietnam. First of all, poverty reduction strategies and programmes need to consider a broader target group, not only the currently poor but also those at risk of being poor in the future. According to Dercon (2005, 31), there is scope for assisting the poor in protecting themselves, either by promoting more self-insurance via savings or by supporting micro-credit. Key problems with existing self-insurance via assets is that they tend to be risky and may well be strongly covariate with incomes, limiting their effectiveness, while financial savings products are typically not tailored to the poor, offering low or negative returns, and involving prohibitive transactions costs.

Furthermore, own research revealed that the combination of credit and insurance, especially loans that are taken up to purchase livestock, might help rural farm households to decrease their vulnerability and save them from slipping into poverty. Such a scheme would nevertheless only help those households that were able to get the credit in the first place, thus excluding the poorest of the poor. These households can only be reached by means of a general social welfare scheme. To date, however, no functioning rural social security schemes exist in Northern Vietnam. It is assumed that an efficient and accessible health care system would be an important alternative for securing livelihoods, as the majority of the interviewed households had problems with high cost of illness treatment. The Vietnamese Government has recognized the need to protect its poorest citizens and has called for a Master Plan on a 'social security system for rural people, people at a disadvantage and ethnic minority areas'. This Master Plan was expected to be submitted to the Central Politburo by the end of June 2009 and may include, for example, a social welfare and a health care scheme.

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