



Livelihood Vulnerability and Food Security among Upland Ethnic Minorities in Northern Vietnam

CHRISTINE BONNIN AND SARAH TURNER

ABSTRACT. For the Socialist Republic of Vietnam, national food self-sufficiency is a core concern. The state focuses on rice production and output levels for local and overseas markets, endorsing the adoption of hybrid rice seeds through numerous development initiatives. Yet, this approach overlooks an important group of rice producers and consumers in Vietnam: highland ethnic minorities. Fluctuations in global grain demand mean little for their daily coping mechanisms and near-subsistence livelihoods, but food security is an ongoing preoccupation for their households. In this research note, we take an actor-oriented livelihood approach to examine food security among ethnic minorities—namely, Hmong and Yao—in Lào Cai province, northern Vietnam. Arguing that the everyday, subjective experiences of upland minority groups have been ignored, we examine how these groups have reacted to the introduction of hybrid seeds, their negotiations with the state over its use, and their trials and tribulations along the way.

KEYWORDS. food security · ethnic minorities · Hmong · Yao · Lào Cai · northern Vietnam

INTRODUCTION

With the Millennium Development Goals calling for the proportion of people suffering from hunger to be halved between 1990 and 2015, and with more than one billion individuals currently lacking access to sufficient food, concerns over food security are finally taking center stage (Ivanic and Martin 2008; Migiro 2009).¹ More positively, food security in Southeast Asia has improved as a whole since the 1950s, and the Socialist Republic of Vietnam is now one of the top three rice exporters in the world (Gill et al. 2003; Turner and Caouette 2009). Indeed, rice is intimately linked to Vietnam's food security and is a key element of government policy. Core concerns for the state include

appropriate profit margins for rice farmers, apprehensions over rice exports, introducing and promoting hybrid varieties, developing rice storage systems, brand recognition, improving communication between farmers and state enterprises, and ensuring food security and incomes for rural producers (IRIN 2008; United Nations Vietnam 2008; Vietnam News 2009).

Yet, while both government and international aid agencies in Vietnam focus on production methods, output levels, and local and global market prices, this approach overlooks an important group of rice producers and consumers: upland ethnic minorities. For these farmers, a rise in countrywide rice production and global demand means little for their coping mechanisms and near-subsistence livelihoods. Food security is a daily preoccupation for these upland households, and to this extent they have been increasingly encouraged by government institutions to grow hybrid varieties of rice (FAO 2004; Gill et al. 2003). However, insufficient research has been undertaken that incorporates the everyday, subjective experiences of these upland minority groups, their shifting livelihoods, and their interactions with a government resolute in the promotion of hybrid seeds.

Since reunification in 1975, the Vietnamese state has worked consistently to integrate highland ethnic minorities economically into the national economy, politically into the communist state, and ideologically into the Viet nation. This integration has been undertaken by a variety of means, including the extension of infrastructure into the highlands, the delivery of education in the Vietnamese language, and the economic reorganization of the uplands. Nevertheless, ethnic minorities have remained relatively autonomous in both sociopolitical organization and economic production (Michaud and Turner 2000). Throughout history, these groups have been poorly understood by the majority of lowland Vietnamese (*Kinh*) and the government, often crudely branded as “backward” or “lazy.” Since independence, this labeling has intensified, justifying programs for highland “development” and modernization (Sowerwine 2004; van de Walle and Gunewardena 2001). In turn, there is often little trust among upland ethnic minority farmers in state initiatives and incentives as well as in individual state officials due to historic harassment, land settlement policies, and numerous policies and programs that ignore culturally appropriate development (World Bank 2009; personal observations).

Examining food security issues at the local level in upland northern Vietnam, we investigate how ethnic minority Hmong and Yao household

members in Lào Cai province have reacted to the state-led introduction of hybrid rice seeds and their negotiations and concerns cultivating this crop. Issues of food security, agency, and vulnerability take center stage. We want to better understand how the Vietnamese government has worked to encompass upland livelihoods into their development programs, the impacts of state-subsidized hybrid rice seeds for local ethnic minority producers, and the latter's challenges and coping strategies associated with these seeds.

This study builds upon other work emerging in Asia concerned with local community impacts of hybrid seeds. Distinct from high-yielding varieties (HYVs), hybrids are selectively bred for particular seed traits by crossing two genetically distinct parents. This produces "heterosis or hybrid vigour" (Husain, Hossain, and Janaiah 2001, 5). Farmers must buy new seeds for each planting season, as these seeds lose their capacity with successive replanting (Kloppenburg 2004; Pray and Naseem 2007). Hybrid rice seeds first gained popularity in China, planted on a large scale from the mid-1970s. The state supplied and managed the final output of these seeds, thus quality and cost were of little concern. Since the early 1990s, hybrid rice seed adoption has been declining in China, in part due to economic liberalization (Dalrymple 1986; Husain, Hossain, and Janaiah 2001). India and Bangladesh began trials of hybrids in the early 1990s, and in both cases farmer reactions have been mixed (Chengappa, Janaiah, and Srinivasa Gowda 2003; Hossain, Janaiah, and Husain 2003). In Vietnam, hybrid rice seeds were first distributed in the north in the early 1990s. By 2008, thanks to strong government backing, hybrid rice was being grown in thirty-one provinces in the north and five provinces in central Vietnam (Dang Quy Nhan, Duong Ngo Thanh Trung, and Hoang Kim Dieu 2008). The impacts of the introduction of hybrid seeds on upland ethnic minority farmers and their reactions to it have yet to be documented; hence, our initial work here.

While not discussed in detail in this research note, the conceptual approach underscoring this work draws upon an actor-oriented livelihood framework, which lets us focus on the experiences and strategies of individuals and their expectations of "development" and modernity (Arce and Long 2000; Bebbington 1999; Drinkwater 1992). We consider how different social actors are constrained by unequal access to resources and information, as well as uncertainties concerning food security (Long 2002). At the same time, we are cognizant that every Hmong and Yao individual and household in

upland Northern Vietnam may have different livelihood strategies, and by no means do we attempt to cover them all here. Our objective instead is to explore a range of local approaches and coping methods.

Our data were gathered during eight months in 2009 and 2010, from interviews with Hmong and Yao rice producers, rice traders of different ethnicities, rice distribution state officials, and representatives from an international nongovernment organization (NGO). These data are supplemented by information on highland livelihood strategies gathered since 1999 in Lào Cai province. Furthermore, additional discussions with traders and farmers across northern highland provinces (Lào Cai, Lai Châu, Yên Bai, Hà Giang) corroborate our evidence.²

We next introduce the actors at the core of this investigation, before briefly examining the multiplicity of government programs introduced to (re)shape upland agricultural production, including hybrid seed distribution. We subsequently focus on the impacts of hybrid seeds, analyzing how they affect the agricultural livelihoods of ethnic minority actors and their diverse coping strategies. These strategies illustrate the ability of these groups—within the limits of both a socialist political context and a specific agro-ecological environment—to adapt to and resist far-reaching macrolevel food security policy initiatives and their unforeseen impacts.

ACTORS IN THE NORTHERN VIETNAM UPLANDS

Hmong and Yao Farmers in Lào Cai Province

As two of the more populous of Vietnam's fifty-three ethnic minority groups (*cac dan toc thieu so*), the Hmong and Yao (Dao) together comprised 1.8 million of the country's population of 85.8 million at the time of the 2009 census (Socialist Republic of Vietnam 2010). As transnational ethnic groups, Hmong and Yao upland farmers have developed economic practices, political approaches, and cosmologies that signal their distinctiveness from lowland *Kinh* (Turner 2007). Paddy rice and maize have always been the mainstay of Hmong and Yao livelihoods in Lào Cai province (Culas and Michaud 2004), but here we focus on rice production, given the government's preoccupation with this crop vis-à-vis national food security. Hmong and Yao predominantly live in high-elevation areas, where climatic conditions permit only one rice harvest per year.

Both Hmong and Yao are patrilineal, and household land is divided among sons when they marry. Together with the effects of state-led programs for sedentarization, land allocation, and population redistribution, this puts intense pressure on the limited agricultural land that can support irrigated paddy cultivation (World Bank 2009). If a household finds itself short of land, members may purchase rice fields, but more commonly, these are rented following a number of informal procedures. Within these highland communities, self-sufficiency in rice production is considered a reflection of both the wealth and industriousness of a household, and those who cannot achieve this can be stigmatized as either “poor” or “lazy” by other members of their hamlet (Pheng Sengxua 2006, 108; authors’ observations 2009; see also Tran Hong Hanh 2006 regarding Yao).

Completing these livelihoods, Hmong and Yao maintain small produce gardens for everyday use, while some also depend upon rotational swidden plots, albeit officially banned. The collection of forest products provides further food, such as honey and game, as well as medicinal herbs. To supplement these predominantly subsistence livelihoods, upland farmers sometimes engage in small-scale commercial exchanges, gaining cash via the sale of cultivated cardamom, textiles, livestock, and rice and maize alcohol (cf. Leisz et al. 2004; Tugault-Lafleur and Turner 2009, 2011; Vuong Duy Quang 2004; Turner, 2012).

State Development Programs in the Northern Uplands

Successive Vietnamese states have been preoccupied with the assimilation of ethnic minority peoples, in part to help the highlands “catch up” with the lowlands in terms of economic productivity and market integration (Sowerwine 2004). Prior to economic renovations (*doi moi*) formally adopted in 1986, assimilation was couched in terms of “sedentarization” and “resettlement,” the state attempting to promote fixed agriculture and eliminate shifting cultivation. This agenda continues to underlie current policies although the language has shifted since the early 1990s toward “poverty alleviation” and “socioeconomic development” (Nguyen Thi Thu Phuong and Baulch 2007, 4; Pham Anh Tuan 2009).

A number of ethnic minority farmers living in the northern uplands are currently entitled to a confusing array of support from a diversity of state sources, including subsidized or free hybrid rice seeds

(Swinkels and Turk 2006, 9). Primarily, the hybrid seed programs aim to increase agricultural yields and improve local food security, while also producing consistently “high-quality rice.” Hence, while ethnic minorities have traditionally cultivated a range of rice varieties to ensure food security and enhance crop resistance to pests and drought, mainstream state strategies for food security do not currently value traditional agrodiversity (UNEP 2005, 31).

Government Decree 20/1998/NĐ-CP, promulgated in 1998, introduced price subsidies for agricultural inputs (hybrid seeds, fertilizers, and pesticides) in communes classified as upland and ethnic-minority areas (Oxfam 2001). Here, ethnic-minority households are strongly encouraged to grow hybrid rice varieties, and the state propaganda machine works effectively to reach potential farmers. Posters are affixed to marketplace buildings, government offices, local stores, and houses promoting hybrid seeds, while calendars with similar advertising are distributed to households. Concurrently, loudspeaker announcements in communes and towns extol the virtues of the seeds. Extension-service officials do likewise while visiting local communes. However, the realities of the distribution of these inputs vary widely, and residents of remote hamlets often have difficulty accessing state distribution centers, as noted next (Oxfam 2001, 41-42; Nguyen Thi Thu Phuong and Baulch 2007; authors’ observations).

NEGOTIATIONS OVER HYBRID RICE

The current program of hybrid rice and maize seed and input support began in Lào Cai province in 1999. The seeds were initially introduced for free. Since 2001 the Lào Cai provincial government has provided a 30 percent price subsidy on hybrid seeds to specific communes. According to a 2003 study focusing on Muong Khuong district, this program resulted in an average increase in rice and maize yield productivity of 30-50 percent (DFID and LCPC 2003, 13). Fertilizer is also subsidized and sometimes supplied free via the sedentarization program; however, the government aims to phase out subsidies on fertilizers once farmers reach “sustainable” production levels (Hoang Xuan Thanh and Neefjes 2005, 15). Despite claims of improved yields of hybrid seeds, NGO officials working in Lào Cai province noted that Hmong and Yao households were initially reluctant to switch to the new seeds. Although Hmong and Yao have since taken up hybrid seed cultivation there and elsewhere, they have remained cautious, adopting the new seeds at different rates and to different extents.

Hmong and Yao interviewees explained that prior to the introduction of hybrids, if a household did not have sufficient rice for the year, they would make do eating potatoes, maize, and cassava. However, this is now seen by interviewees as a temporary strategy that households turn to only in times of emergency. Rice is now the preferred staple, and few are willing to substitute it with other foods unless absolutely required (cf. Castella and Erout 2002, 180). Many interviewees acknowledged that hybrid seeds produce better yields but that their traditional rice variety tastes far superior.³ Broadly, hybrid seeds are seen as a positive intervention, but Hmong and Yao households voiced deep-seated apprehensions over a dependency on governmental distribution of subsidized seeds.

Taste versus Practicalities

Whereas Hmong farmers traditionally cultivated “Hmong rice,” households facing decreasing land holdings are now replacing traditional varieties with hybrids, which grow closer together and produce more yield per acre. At the same time, both Hmong and Yao households continue to grow between one and eight varieties of traditional rice, especially sticky rice, which plays a central role in their identity, customs, beliefs, and in sustaining social relations. Dry (non-paddy) rice is also grown by a few families in small quantities as an emergency food supply and for livestock feed, though this is now perceived as very labor intensive due to the substantial weeding required, and maize is more commonly cultivated for these functions.

The seasonal window of opportunity for sowing traditional rice seeds is wider than for sowing hybrids, allowing human and draft animal labor to be shared among households, as well as the completion of other household duties. Moreover, interviewees noted that after harvesting, the stalks of traditional rice can be fed to the buffalos—essential for ploughing the steep terraced rice fields—but hybrid stalks are too tough. This means that, nowadays, farmers must seek other feed sources for their buffalo, often traveling long distances to find suitable grass for feed. This incurs increased costs and labor, as opposed to the consumption of a local agricultural by-product.

Each and every Hmong and Yao interviewed was adamant that traditional rice tastes much better than current “Chinese rice” (as locals call the hybrids, owing to the fact that the majority of varieties distributed in northern Vietnam uplands are imported from China). Interviewees explained that if they could—in relation to food security

needs, rice terrace size, and number of sons among whom land must be divided—they would *only* grow traditional Hmong and Yao rice given quality preferences and other factors to be discussed shortly. Interviewees explained that they switch to “Chinese rice” only when their landholdings are no longer sufficient to grow enough traditional rice for subsistence needs. Undeniably, changes in the size of household land parcels, for reasons discussed above, are an ongoing factor in the negotiations that households make over when and whether to change to hybrid seed.

Financial Costs

Unlike traditional seeds, hybrid seeds need to be purchased annually. They also require additional financial outlays for fertilizers and pesticides, as well as regular irrigation supplies. Therefore, in Lào Cai province, hybrid rice seeds are often five to ten times more expensive to grow than local seeds despite being subsidized (DFID and LCPC 2003, 21). While in theory these additional overheads are offset by improved yields, farmers are often discouraged by this need for financial investment.

The need for chemical fertilizers was considered by interviewees as the most costly aspect of cultivating hybrids. Traditional rice varieties demand less fertilizer, and this fertilizer tends to be organic (e.g., a mix of dried buffalo dung and ash that farmers gather themselves from kitchen fires), thus minimizing costs. In addition, hybrid seeds have also been found to be more susceptible to a broader range of diseases than traditional rice varieties in the region, so pesticide treatments are essential, adding further financial outlays.

Prices for hybrid seeds themselves are also rising rapidly. Hmong and Yao informants noted that in 2005-2006, one kilogram of rice seed from government supply centers had cost VND 12,000, whereas in 2009 this rose to between VND 28,000 and VND 30,000 per kilogram. Nevertheless, prices from small-scale traders in the province, some of whom cross to China to privately import seed, remain even higher, with our investigations in border marketplaces in Si Ma Cai, Muong Khuong, and Bát Xát districts revealing a kilogram of hybrid seeds selling between VND 40,000 and VND 80,000 in 2009.

Access Constraints

Despite private traders charging higher prices, consumers purchase hybrid seeds via this route due to the unreliability and poor timing of the government distribution of subsidized seeds. To gain such seeds via

state channels, households need to register their order early in the year, often before they know how many fields they will cultivate that season, as customary rental arrangements regarding paddy land are made closer to the planting season. Given the ongoing land squeeze mentioned earlier, decision making regarding food security must shift often on an annual basis.

In addition, stocks of hybrid seeds often do not arrive punctually at official distribution centers, pushing the planting season back by two to four weeks and adding anxiety over growing and harvest timing vis-à-vis the rainy season. Some Hmong and Yao households also wish to purchase rice seed *earlier* than it is available from government distribution centers in each district, to allow rice planted at higher elevations to mature longer. These households rely upon indigenous knowledge of seasonal planting calendars and local weather patterns to determine optimal sowing times, a factor ignored by the government delivery schedule. Moreover, the constraints of the delivery schedules mean that all households of a given area need to plant their rice seeds simultaneously. This leaves little room for the customary exchange of human and draft animal labor, with some households having to employ wage labor at added cost.

Even more distressing for informants are the occasions when rice stocks held by distribution centers are inadequate. District authorities sometimes estimate the quantity of rice seed a particular commune will require, based on (often outdated) data of commune landholdings. Since the amount of land actually under cultivation in a commune is frequently greater, supplies can be insufficient to meet demand, and farmers go away empty handed, scrambling to find alternative supplies.

Local Climatic and Topographic Conditions

Hybrid seeds grow best under very specific conditions; they seldom succeed optimally within the extremely wide diversity of growing environments that characterizes upland Vietnam (Nguyen Tat Canh et al. 2005, 20). Adding to this ecological diversity, the uplands have experienced significant droughts and cold winters in the past three years, and farmers voiced concerns over the ability of hybrid seeds to cope with increasing climatic variability. Several interviewees reported the repeated failure of hybrid rice yields in specific hamlets due to climatic extremes and pests, arguing that the government had supplied locally inappropriate rice seeds. After such failures the government did not react with relief aid or financial support. Local state officials have

also ignored requests to supply specific seed varieties that villagers consider the most appropriate for their local agro-ecological environment.

Given these shortcomings of the governmental hybrid program in the uplands, there is a high degree of wariness each year among Hmong and Yao rice cultivators as to whether the government will supply suitable seeds on time and whether these will provide the expected yield. Due to concerns over the timing and reliability of official seed distribution, and a lack of trust regarding the government's seed selection, households have implemented a range of responses that are part and parcel of their livelihood coping strategies and everyday politics.

EVERYDAY POLITICS OF RICE IN THE UPLANDS

It must be remembered that despite these concerns and constraints, as noted earlier, the majority of Hmong and Yao farmers with whom we spoke reported that overall, hybrid rice is a "good thing," and they now usually have enough rice to see them through the year. Despite the problems associated with growing hybrid strains, the cultural importance of rice self-sufficiency is a key factor influencing Hmong and Yao households to adopt the new seeds. However, Hmong and Yao farmers are also keenly aware that their reliance on seeds and inputs for hybrid crops frequently leaves them more vulnerable, having to cope with reduced food security, interwoven with existing long-term concerns such as land availability, climatic variability, and buffalo well-being. Hybrid seeds have been adopted by ethnic minority actors in selective and opportunistic ways, drawing upon historically and spatially rooted strategies for livelihood adaptability and flexibility.

Indeed, in light of the state-subsidized hybrid rice program, a diverse range of social networks and agricultural strategies are being called upon by local households to inform livelihood decision-making processes and reduce livelihood vulnerabilities. As explored earlier, these strategies range from borrowing or renting land, buffalo, and labor, to carefully adjusting and managing annual livelihood calendars. Knowledge regarding distribution, availability, and cultivation of hybrid seeds is exchanged between relatives in different hamlets and communes, facilitated by the social networks of clan exogamy. These coping mechanisms have led in many cases to adaptations regarding rice seed purchasing, crop diversification, and planting techniques that

align more appropriately with Hmong and Yao livelihood needs, cultural priorities, and agro-ecological circumstances.

At this stage, can we go as far as to suggest—in line with arguments put forward by Scott (2009)—that the state is now flexing its authority over food production in this remote mountainous area trying, as it has done in the past, to bring the uplands closer to the lowlands and within the state’s panoptic gaze (Scott 2009; cf. McElwee 2004)? What would be our evidence for such a statement? For starters, the government support of hybrid seeds in the uplands is requiring the increasing monetization of highland agricultural livelihoods. With the requirement that households purchase rice seed supplies annually, cash flow has suddenly become a far greater cause for concern for these households than ever before. Upland farmers must now find sources of cash income, resulting in greater integration into the market economy, as they turn to cardamom cultivation, and textile and alcohol production, among other trades. This is directly in line with state policies for market expansion in the uplands (SRV 2003). Nevertheless, as has been found among Yao and Tày farmers elsewhere in Vietnam’s northern uplands, “having been subjected for years to policies developed far away, with little preference given to their own thoughts and opinions, it is not surprising that farmers are ambivalent about the benefits of participating in ‘remotely controlled’ top-down development projects” (Alther et al. 2002, 144).

Among the Hmong and Yao rice cultivators interviewed, we observe livelihood coping mechanisms that are part and parcel of these farmers’ “everyday politics” (Kerkvliet 2009, 232). These involve complying with, adjusting to, improving upon, and quietly contesting the socialist state’s latest efforts to control livelihood and resource distribution in the uplands (*ibid.*). As has been shown in the above analyses, for some this means challenging the wishes of the Vietnamese state in subtle, “under the radar” ways, such as continuing to grow traditional rice while their family land share is large enough. Other Hmong and Yao have adopted the new seeds, but with a degree of skepticism regarding the local government’s ability to provide appropriate varieties, at the right time. Farmers therefore work the system to gain supplies elsewhere, while maintaining a series of “backup plans,” such as cultivating maize, dry rice, and traditional wet rice crops. At times of hybrid crop failure or reduced yields, uplanders temporarily fall back on the century-old understanding of food security, drawing upon traditional upland crops and food sources from

the forest, as they have done in the past, including fairly recently during the 1979 China-Vietnam border war (Tugault-Lafleur and Turner 2011).

So why have more progressive, local-level state officials not acknowledged some of these shortcomings of the state hybrid program and utilized their own agency to make improvements? It appears that a number of factors currently prevent this from occurring. First, agricultural training sessions are conducted predominantly in Vietnamese by provincial Centres for Agricultural Extension (World Bank 2009). Local extension officers select literate and Vietnamese-speaking farmers as participants, excluding many ethnic minority individuals. Moreover, as a World Bank (2009, 184) investigation found recently in the Vietnam uplands, extension policies “aim to alter existing farming systems rather than complement them; these ‘models’ make no attempt to build on existing traditional farming systems, and no efforts are made to blend new farming methods with traditional ones in a way that does not compromise subsistence needs while attempting to boost production for the market.” Therefore, farmers have no satisfactory mechanism to report their experiences regarding the hybrid program, local agricultural conditions, or their coping strategies to officials in order to inform and improve government services. Also telling is that most ethnic minority farmers do not learn about new seed varieties and technologies through agricultural extension outreach, but receive this information through informal networks of kin and neighbors.⁴

Without doubt, Hmong and Yao uplanders have employed a “mosaic of divergent responses” (Bouahom, Douangsavanh, and Rigg 2004, 608) with regard to the distribution and cultivation of hybrid seeds. They have determined the importance of relying upon diverse coping methods instead of depending on one specific approach to rice procurement and cultivation, despite the government’s propaganda pushing for their wholesale reliance on hybrid seeds. A composite approach to livelihoods that includes the adoption of new practices but with a firm resolution to maintain others rooted in local cultural knowledge, has been decided to be the most judicious tactic of the day.

CONCLUSION: BALANCING LIVELIHOOD VULNERABILITIES

The Hmong and Yao livelihood strategies in Lào Cai province, in response to state interventions, are multiple and on occasion even

contradictory. At times their strategies appear to resonate with the state's current vision of development; at other times they resist it. These are weighty negotiations, as highlanders build upon culturally rooted local knowledge systems to cope best with new macro-structural interventions that are part and parcel of the government's national food security agenda.

These state programs and local responses also raise important questions regarding the relationships between ethnic minorities in upland northern Vietnam and food sovereignty. Food sovereignty is defined as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems" (World Forum on Food Sovereignty 2007), but we see little evidence among the Hmong and Yao whom we interviewed that they are *openly* defining their own food and agriculture systems. Instead they are relying on covert means to maintain locally and culturally relevant approaches, in the face of government directives and ambiguously implemented programs.

Likewise, while analyzing food security, Maxwell and Smith (1992, 4) have argued that "flexibility, adaptability, diversification and resilience are key words. Perceptions matter. Intra-household issues are central. Importantly...food security must be treated as a multi-objective phenomenon, where the identification and weighting of objectives can only be decided by the food insecure themselves." Again, the food insecure in this case are not part of the decision-making process regarding *any* policy objectives. Yet they are, without a doubt, demonstrating adaptability, diversification, and resilience, notwithstanding the Vietnamese government's desires to integrate them more fully into the state's food security policies. While the Malthusian squeeze on their landholdings will likely increase their reliance on hybrid seeds, we argue that the perspectives of Hmong and Yao rice cultivators are vital and need to be heard: first, to show, yet again, how flexible and resilient these groups are, quietly adjusting and contesting rules when necessary to ensure their food security; and second, so that, given the state's continued push for implementing development programs and policies in the uplands, state officials might consider and act upon local concerns to inform more appropriate and effective approaches.✿

NOTES

1. Food security is defined by the Food and Agriculture Organization of the United Nations (FAO 2002) as “a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”
2. Interviews with Hmong and Yao were completed with the help of Hmong and Yao interpreters, while interviews with lowland Kinh were completed either with or without interpreters. All names are pseudonyms. This invited research note is based upon a longer and more detailed discussion of hybrid rice in the Vietnam uplands. See Bonnin and Turner 2012.
3. Hmong interviewees estimated they can grow 600-800 kilograms of rice from 10 kilograms of hybrid seeds, without extensive use of chemical fertilizer and depending on climatic conditions. If fertilizer is applied this can rise to 1,200-1,500 kilograms. In comparison, from 10 kilograms of traditional seeds, Hmong interviewees deduced they can grow 500-600 kilograms of rice.
4. While there is evidence that the central Vietnamese state has recently begun to formally acknowledge the importance of traditional farming and household seed distribution systems because of links to agricultural biodiversity conservation (e.g., Decision No. 35/2008/QD-BNN), it remains to be seen how this national policy will be implemented at the local level.

REFERENCES

- Alther, C., J. C. Castella, P. Novosad, E. Rousseau, and Tran Trong Hieu. 2002. “Impact of Accessibility on the Range of Livelihood Options Available to Farm Households in Mountainous Areas of Northern Viet Nam.” In *Doi Moi in the Mountains: Land Use Changes and Farmers' Livelihood Strategies in Bac Kan Province, Vietnam*, edited by Jean-Christophe Castella and Dang Dinh Quang, 121-46. Hanoi: The Agricultural Publishing House.
- Arce, Alberto, and Norman Long. 2000. “Reconfiguring Modernity and Development from an Anthropological Perspective.” In *Anthropology, Development and Modernities: Exploring Discourses, Counter Tendencies and Violence*, edited by Alberto Arce and Norman Long, 1-31. London: Routledge.
- Bebbington, Anthony. 1999. “Capitals and Capabilities: A Framework for Analysing Peasant Viability, Rural Livelihoods and Poverty.” *World Development* 27 (12): 2012-44.
- Bonnin, Christine, and Sarah Turner. 2012. “At What Price Rice? Food Security, Livelihood Vulnerability, and State Interventions in Upland Northern Vietnam.” *Geoforum* 43 (1): 95-105.
- Bouahom, Bounthong, Linkham Douangsavanh, and Jonathan Rigg. 2004. “Building Sustainable Livelihoods in Laos: Untangling Farm from Non-Farm, Progress from Distress.” *Geoforum* 35: 607-19.
- Castella, Jean-Christophe, and Antoine Erout. 2002. “Montane Paddy Rice: The Cornerstone of Agricultural Production Systems in Bac Kan Province, Vietnam.” In *Doi Moi in the Mountains: Land Use Changes and Farmers' Livelihood Strategies in Bac Kan Province, Vietnam*, edited by Jean-Christophe Castella and Dang Dinh Quang, 175-95. Hanoi: The Agricultural Publishing House.

- Chengappa, P., A. Janaiah, and M. Srinivasa Gowda. 2003. "Profitability of Hybrid Rice Cultivation: Evidence from Karnataka." *Economic and Political Weekly*, June 21.
- Culas, C., and J. Michaud. 2004. "A Contribution to the Study of the Hmong (Miao) Migrations and History." In Tapp et al. 2004, 71-96.
- Dalrymple, Dana G. 1986. *Development and Spread of High-Yielding Rice Varieties in Developing Countries*. Washington, DC: Agency for International Development.
- Dang Quy Nhan, Duong Ngo Thanh Trung, and Hoang Kim Dieu. 2008. "Hybrid Rice Cultivation Situation in the Northern Midland Region of Vietnam." Proceedings of JSPS International Seminar 2008, "Hybrid Rice and Transformation of Farming Systems," Kyushu University, Fukuoka, Japan, November 22-24.
- DFID (Department for International Development) and LCPC (Lào Cai People's Committee). 2003. *Participatory Poverty Assessment In Lào Cai Report*. DFID.
- Drinkwater, Michael. 1992. "Visible Actors and Visible Researchers: Critical Hermeneutics in an Actor-Oriented Perspective." *Sociologia Ruralis* 32 (4): 367-88.
- FAO (Food and Agriculture Organization). 2002. "The State of Food Security in the World 2001." Accessed November 20, 2009. <http://www.fao.org/docrep/003/Y1500E/Y1500E00.htm>.
- . 2004. "Food Insecurity and Vulnerability in Viet Nam: Profiles of Four Vulnerable Groups." ESA Working Paper No. 04-11, Agricultural and Development Economics Division.
- Gill, Gerard J., John Farrington, Edward Anderson, Cecilia Luttrell, Tim Conway, N. C. Saxena, and Rachel Slater. 2003. "Food Security and the Millennium Development Goal on Hunger in Asia." Working Paper 23. London: Overseas Development Institute.
- Hoang Xuan Thanh and Koos Neefjes. 2005. "Economic Integration and Maize-Based Livelihoods of Poor Vietnamese." Discussion Paper. Hanoi: Vietnam Institute of Economics.
- Hossain, Mahabub, Aldas Janaiah, and Muazzam Husain. 2003. "Hybrid Rice in Bangladesh: Farm-Level Performance." *Economic and Political Weekly*, June 21, 2517-22.
- Husain, A. M. Muazzam, Mahabub Hossain, and Aldas Janaiah. 2001. *Hybrid Rice Adoption in Bangladesh: A Socioeconomic Assessment of Farmers' Experiences*. Research Monograph Series No. 18. Research and Evaluation Division, BRAC.
- IRIN (Integrated Regional Information Networks). 2008. "Vietnam: Rice Exports Cut in 'Self-Defence.'" UN Office for the Coordination of Humanitarian Affairs. Accessed July 14, 2009. <http://www.irinnews.org/Report.aspx?ReportId=77749>.
- Ivanic, Maros, and Will Martin. 2008. "Implications of Higher Global Food Prices for Poverty in Low-Income Countries." Policy Research Working Paper 4594, World Bank Development Research Group, Trade Team. Washington: The World Bank.
- Kerkvliet, Benedict Tria. 2009. "Everyday Politics in Peasant Societies (And Ours)." *Journal of Peasant Studies* 36 (1): 227-43.
- Kloppenburg, Jack Ralph. 2004. *First the Seed: The Political Economy of Plant Biotechnology, 1492-2000*. 2nd ed. Madison: University of Wisconsin Press.
- Leisz, Stephen J., Nguyen Thi Thu Ha, Nguyen Thi Bich Yen, Nguyen Thanh Lam, and Tran Duc Vien. 2004. "Developing a Methodology for Identifying, Mapping and Potentially Monitoring the Distribution of General Farming System Types in Vietnam's Northern Mountain Region." *Agricultural Systems* 85: 340-63.

- Long, Norman. 2002. "An Actor-Oriented Approach to Development Intervention." In *Rural Life Improvement in Asia*, edited by Dalmacio Agustin Cruz, 47-61. Tokyo: Asian Productivity Organisation.
- Maxwell, Simon, and Marisol Smith. 1992. "Household Food Security: A Conceptual Review." In *Household Food Security: Concepts, Indicators, and Measurements: A Technical Review*, edited by Simon Maxwell and Timothy R. Frankenberger, 1-72. New York: UNICEF and IFAD.
- McElwee, Pamela. 2004. "Becoming Socialist or Becoming Kinh? Government Policies for Ethnic Minorities in the Socialist Republic of Vietnam." In *Civilizing the Margins. Southeast Asian Government Policies for the Development of Minorities*, edited by Christopher R. Duncan, 182-213. Ithaca: Cornell University Press.
- Michaud, Jean, and Sarah Turner. 2000. "The Sa Pa Marketplace, Lào Cai Province Vietnam." *Asia Pacific Viewpoint* 41 (1): 85-100.
- Migiro, Asha-Rose. 2009. "Sowing the Seeds of an African Agricultural Revival." Op-ed article, United Nations Secretary-General High Level Task Force on the Global Food Security Crisis. Accessed August 10, 2009. http://www.un.org/issues/food/taskforce/dsg_oped_July_09.shtml.
- Nguyen Tat Canh, Nguyen Thi Ngoc Hue, Tran Van On, Nguyen Van Trung, Chu Anh Tiep, Dang Van Nien, Pham Van Hien, Nguyen Thi Ming, Pham Hung Cuong, Luu Ngoc Trinh, B. Sthapit, and D. Jarvis. 2005. "Scientific Basis of On-farm Conservation of Upland Rice Diversity: Key Issues for Consideration of Policy Development in Vietnam." In *In Situ Conservation of Agricultural Biodiversity On-farm: Lessons Learned and Policy Implications*, edited by Nguyen Thi Ngoc Hue, Truong Van Tuyen, Nguyen Tat Canh, Pham Van Hien, P. Van Chuong, B. Sthapit, and D. Jarvis, 11-25. Rome: International Plant Genetic Resources Institute.
- Nguyen Thi Thu Phuong and Bob Baulch. 2007. *A Review of Ethnic Minority Policies and Programmes in Vietnam*. Hanoi: Centre for Analysis and Forecasting, Vietnam Academy of Social Sciences; Brighton: Institute of Development Studies.
- Oxfam. 2001. *Rice for the Poor and Trade Liberalisation*. Hanoi: Oxfam GB and Oxfam UK.
- Pham Anh Tuan. 2009. *Vietnam Country Case Study: Background Paper for the Chronic Poverty Report 2008-2009*. Manchester: Chronic Poverty Research Centre.
- Pheng Sengxua. 2006. "Rice-Based Traditions and Beliefs of the Hmong." In *Rice in Laos*, edited by J. M. Schiller, M. B. Champhengxay, B. Linquist, and S. Appa Rao, 107-12. Manila: International Rice Research Centre.
- Pray, Carl E., and Anwar Naseem. 2007. "Supplying Crop Biotechnology to the Poor: Opportunities and Constraints." *Journal of Development Studies* 43 (1): 192-217.
- Scott, James C. 2009. *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia*. New Haven: Yale University Press.
- Socialist Republic of Vietnam. 2008. Resolution No. 30a/2008/NQ-CP. Resolution of Speedy and Sustainable Poverty Reduction Programme for 61 Poor Districts.
- . 2010. Census of Vietnam. General Statistics Office of Vietnam, Hanoi.
- Sowerwine, J. C. 2004. "The Political Ecology of Yao (Dzao) Landscape Transformations: Territory, Gender and Livelihood Politics in Highland Vietnam." PhD diss., University of California, Berkeley.
- Swinkels, Rob, and Carrie Turk. 2006. "Explaining Ethnic Minority Poverty in Vietnam: A Summary of Recent Trends and Current Challenges." Draft Background Paper for CEM/MPR meeting on Ethnic Minority Poverty.

- Tran Hong Hanh. 2006. "Local Knowledge of Agrobiodiversity Conservation among the Yao Communities in Sa Pa District, Lào Cai Province, Vietnam." Paper presented at the International Association for the Study of Common Property, Bali, Indonesia, June 19-23.
- Tugault-Lafleur, Claire, and Sarah Turner. 2009. "The Price of Spice: Ethnic Minority Livelihoods and Cardamom Commodity Chains in Upland Northern Vietnam." *Singapore Journal of Tropical Geography* 30 (3): 388-403.
- . 2011. "Of Rice and Spice: Hmong Livelihoods and Diversification in the Northern Vietnam Uplands." In *Moving Mountains: Ethnicity and Livelihoods in Highland China, Vietnam and Laos*, edited by Jean Michaud, and Tim Forsyth, 100-122. Vancouver: University of British Columbia Press.
- Turner, Sarah. 2007. "Trading Old Textiles: The Selective Diversification of Highland Livelihoods in Northern Vietnam." *Human Organization* 66 (4): 389-404.
- . 2012. "Making a Living the Hmong Way: An Actor-Oriented Livelihoods Approach to Everyday Politics and Resistance in Upland Vietnam." *Annals of the Association of American Geographers* 102 (2): 403-22.
- Turner, Sarah, and Dominique Caouette. 2009. "Shifting Fields of Rural Resistance in Southeast Asia." In *Agrarian Angst and Rural Resistance in Contemporary Southeast Asia*, edited by Dominique Caouette and Sarah Turner, 1-24. London: Routledge.
- UNEP (United Nations Environment Programme). 2005. *Integrated Assessment of the Impact of Trade Liberalisation: A Country Study on the Vietnam Rice Sector*. Bangkok: UNEP.
- United Nations Vietnam. 2008. "Food Prices, Vulnerability and Food Security in Vietnam: A UN Perspective." Hanoi: UN. Accessed March 6, 2009. http://www.un.org.vn/images/stories/news/unvn_food_security_paper_eng.doc.
- van de Walle, Dominique, and Dileni Gunewardena. 2001. "Sources of Ethnic Inequality in Vietnam." *Journal of Development Economics* 65 (1): 177-207.
- Vietnam News. 2009. "Prime Minister Asks Firms to Buy Rice from Farmers." March 5, 1.
- Vuong Duy Quang. 2004. "The Hmong and Forest Management in Northern Vietnam's Mountainous Areas." In *Hmong-Miao in Asia*, edited by Nicholas Tapp, Jean Michaud, Christian Culas, and Gary Yia Lee, 321-31. Chiang Mai: Silkworm Books.
- World Bank. 2009. *Country Social Analysis: Ethnicity and Development in Vietnam*. Washington: The World Bank.
- World Forum on Food Sovereignty. 2007. "Declaration of Nyeleni." Accessed July 14, 2009. <http://www.landaction.org/spip/spip.php?article37>.