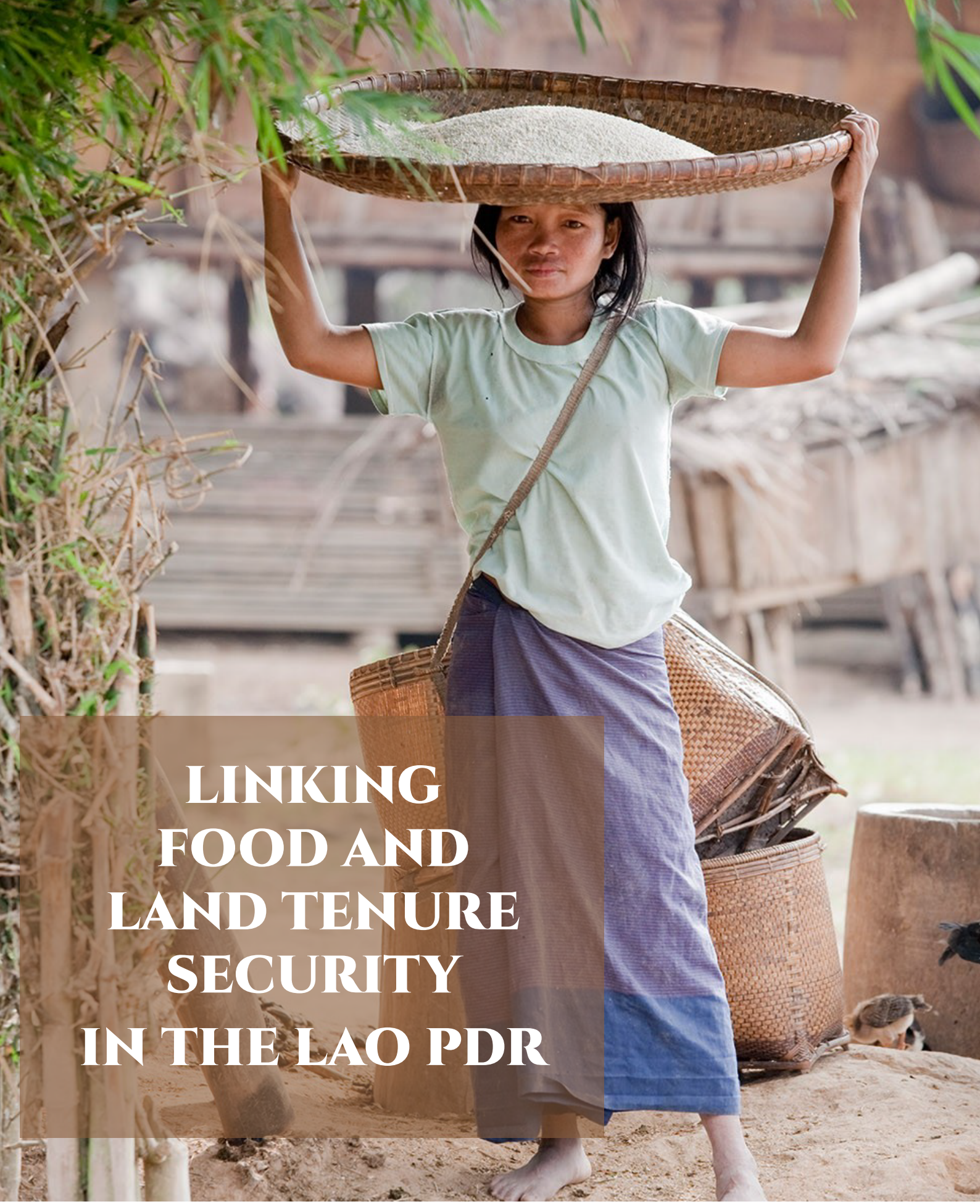

LINKING FOOD AND LAND TENURE SECURITY IN THE LAO PDR

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Linking Food and Land Tenure Security in the Lao PDR

Author: Miles Kenney-Lazar, Doctoral Candidate, Graduate School of Geography, Clark University, USA | miles.kenney@gmail.com

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Land Issues Working Group (LIWG)
LIWG Secretariat
House No. 143, Phonthan Neua village
Saysettha district, Vientiane Capital, Lao PDR
Tel: +856 30 981 5657
Email: info@laolandissues.org

PREFACE

This paper provides a review of existing literature regarding the relationship between land tenure security and food security for rural farming families in the Lao PDR. Its findings help to understand how rural farming families and communities are more likely to experience greater agricultural production and increased food security when they are confident in their rights to use and benefit from the land, especially agricultural land that they rely on for growing crops and grazing livestock.

The findings of this paper are supported by Lao law which encourages the government to protect the benefits of farmers to promote greater productivity[1], as well as the Agricultural Development Strategy to 2025 and Vision to the Year 2030 which gives priority to the transfer of long-term use ownership to each farmer family in rural areas in order for them to concentrate on production.

The Ninth People's Revolutionary Party Congress Resolution provided guidance to all stakeholders in Lao PDR to ensure national food security, which is reflected in the Lao Government's 7th 5 Year National Socio-Economic Development Plan, and is consistent with the United Nation's global Sustainable Development Goals.

As defined by international standards, food security means that all people, at all times, have access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Food security is an important factor for maintaining necessary nutrition, especially those in rural areas. Proper nutrition among children provides for growth and development, both physical and mental, that allow them to avoid illness, success academically, and become healthy, productive adults.

Maintaining access to land and natural resources, including village forests and fisheries, is an important aspect of food security and nutrition. The rural poor have few assets apart from village land and communal natural resources. Livelihoods tend to rely heavily on cultivating agricultural land, supplemented by foraging for wild forest products, hunting and fishing. Access to these resources provides a level of food security, while selling the crops or natural products they collect contributes to household income.

Literature from within Laos and throughout the world has shown that food security, nutrition, biodiversity, and environmental sustainability are all significantly supported when local farmers use their land under the protection of permanent land titles, participatory land use planning, and other forms of land registration such as private land titles and communal land titles. Conversely, literature shows that development projects, policies and large-scale investments that decrease land access also decrease food security.

This paper recommends strengthening land tenure security provisions of government policies by promoting formal land registration as well as recognition of non-formal or customary land tenure systems. In order to provide land tenure security, policies must allow land users to enforce their

1 Article 64 of the Law on Agriculture No.01/98NA

rights to use the land and protect it. These rights are described in the Prime Minister's Decree on the Implementation of the Land Law (2008)[2], as part of the bundle of rights ensured by land use and land utilization rights.

Furthermore, stakeholders should strengthen cooperation between agencies working on food and nutrition and those working on land and natural resource issues. Stakeholders should engage in capacity building with government and non-government staffs concerning links between land tenure security and food security.

These recommendations will provide guidance for local, regional, and central-level policy implementation as well as the discussion and development of legislation related to food, nutrition, agriculture, poverty eradication, and rural development. It is also relevant to supporting ethnic groups and women.

The Department of Agricultural Land Management, in its duty to disseminate information relevant to agricultural[3] development, and its mandate to study and propose methodology and models for the conservation and development of agricultural land, recommends dissemination of this report to all relevant stakeholders, advises careful reading and analysis, and encourages the application of its findings in policy development, and implementation nationwide.

Vientiane Capital, date : 03 October 2016.

Director General,
Department of Agricultural Land Management

Khamphone RASACHACK

2 No. 61/PO

3 Article 57 of the Law on Agriculture No.01/98NA

Table of Contents

ABBREVIATIONS

ADB	Asian Development Bank
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CFS	Committee on World Food Security
FAO	Food and Agriculture Organization of the United Nations
GDP	gross domestic product
GOL	Government of Laos
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
LECS	Lao Expenditure and Consumption Survey
Lao PDR	Lao People's Democratic Republic
LIWG	Land Issues Working Group
LAP	Land Allocation Program
LSB	Lao Statistics Bureau
MAF	Ministry of Agriculture and Forestry
MOH	Ministry of Health
NAFRI	National Agriculture and Forestry Research Institute
NSEDP	National Socio-Economic Development Plan
NPA	Non-Profit Association
NUDP	Northern Uplands Development Program
PPA	Participatory Poverty Assessment
SDC	Swiss Agency for Development and Cooperation
TLUC	temporary land use certificate
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USDA	United States Department of Agriculture
VLRC	Viet-Lao Rubber Company
WHO	World Health Organization
WFP	World Food Programme

Executive Summary

This report explores the relationships between land tenure security and food security in Laos, with comparison to other developing countries. The purpose of the study is to better understand these linkages in order to recommend pathways for policies and projects to improve food insecurity by increasing rural poor people's access and tenure security to land. The report is intended for government agencies, bilateral and multilateral development donors and agencies, international NGOs, and Lao non-profit associations (NPAs), that that work on either food security or land issues.

The main findings of this report are that:

- Secure access to adequate amounts of lands and natural resources is a critical means for enhancing the availability and long term access to food for rural farming populations; and is conclusively linked to improved food security.
- Policies, development projects, and investments that decrease land access also decrease food security.
- Protecting access to land is an effective way to support food security in rural areas.
- Food security is highly complex and cannot be achieved as a result of land tenure security alone, but when combined with other important factors such as hygiene and sanitation, agricultural productivity, and available markets and trade.

These results are of particular concern in Laos, where hunger and malnutrition remain significant human development issues. While the Lao PDR has met its Millennium Development Goal (MDG) to cut hunger in half by 2015, one fifth of the population still consumes less than minimum dietary energy requirements (UNDP 2015). Additionally, malnutrition continues to be a significant problem: forty-four percent of children under five remain stunted, twenty-seven percent are underweight, and six percent are wasted (UNDP 2015).

Concurrently, and not coincidentally, land tenure insecurity continues to be a serious weakness within the country's land governance system. Access to land is increasingly becoming a problem for the rural poor. Formal land registration, via land titles and temporary land certificates, provides some degree of security, but so far has been largely limited to cities. All of the country's communally used land remains untitled, apart from two plots, in Sangthong and Nakai districts, Vientiane Capital and Khammouane province (Schneider 2013). Furthermore, the capacity of formal land registration to provide land tenure security is limited when titles and certificates are not legally recognized as protection from expropriation, which has occurred in Laos on multiple occasions (Obein 2007, Luangaramsi et al. 2008).

Definitions of land tenure security and food security show the close conceptual links between the two phenomena. Land tenure security is when peoples' access to and use of land and related resources is protected through social and legal systems of rights and governing institutions (FAO

2012). Food security, on the other hand, is when all people at all times have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for a healthy and active life (CFS 2014). Conceptually, land tenure security contributes to food security when rural people have secure access to land, forests, and related resources, this enables them to produce food for consumption or generate income that can be used to purchase food.

Evidence from Laos shows that rural populations with lower access to or ownership of land are more likely to be food insecure and face malnutrition. Farmers interviewed across the country attribute food shortages and poverty to a lack of land for cultivation, particularly rice production. They further report that land access has decreased in part due to land allocation policies, village relocation and consolidation, and economic land concessions, which have created population pressures and scarcities of natural resources (Chamberlain 2007, Arnst 2010). Farmers also recognize that natural increases in population, due to large family sizes, leads to decreased access to land at the household level (Arnst 2010). In other cases, farmers have lost land after selling it when they fall into debt (Kemp 2012). Statistical analyses at the national scale show that children from households with less than two hectares of arable land are more likely to be malnourished (Annim and Imai 2014). Additionally, households belonging to ethnic groups that report lower levels of land ownership are more food insecure (WFP 2006), although the situation may have changed prior to the Lao PDR achieving the MDG on food security.

Lack of access to land by the rural poor in Laos is often the result of weak land tenure. Government policies, development projects, and private investments—combined with insufficient land tenure security—have decreased farmers' access to land, resulting in food insecurity. The land allocation program (LAP) and relocation policies have restricted rural peoples' access to farm and forestland, thus limiting their ability to produce food (Ducourtieux et al. 2005, Cunnington 2011).

A number of factors cause or contribute to these threats to land tenure security of poor, rural communities. Land users can lose their access to land due to disputes by neighboring households, neighboring villages, public development projects, and land concessions to foreign and domestic investors (VFI, 2015).

Among these factors, land concessions for agricultural and tree plantations, mineral extraction, hydroelectric power generation and infrastructure projects have especially increased food insecurity by expropriating communal and private land at the village level, reducing access to the land necessary to produce and collect food and resources for consumption and sale (Barney 2007, Obein 2007, Baird 2010). While these projects provide some opportunities for wage labor, there are not enough jobs available and the wages are not high enough to replace food production and income generation from lost agricultural and forest lands (Wright 2009, Fullbrook 2010). As a result, most research has shown that food insecurity increases immediately as a result of land concessions (Molina 2011, Kenney-Lazar 2012).

This study also explored the links between food security and the development of cash crops. Market transitions and agricultural commercialization have the potential to improve food security as a result of increased opportunities for income generation and wage labor (von Braun and Kennedy 1994). However, this mostly occurs in cases where farmers retain access to their land as a result of strong land tenure, enabling them to take advantage of market opportunities (Wright 2009). At the same time, however, marketization can create over-dependence on cash cropping

and food purchasing, which is risky due to price fluctuations. Dips in prices of cash crops can push farmers to sell their land when they are food insecure, which has recently occurred in Luang Namtha due to a crash in rubber prices (VT 2014b). Furthermore, rapid price increases and inflation can reduce food access for farmers who have become dependent upon market-purchased food.

Six recommendations emerge from this research for policy-making and development project design: 1) In cases when land investments overlap with people's lands, ensure that people have the right to choose or refuse the proposed land use. 2) Improve land tenure security in rural areas through multi-pronged strategies, both promoting land registration as well as recognition of non-formal or customary land tenure systems and zoning agricultural land use areas. 3) Enhance and broaden advocacy efforts to strengthen land tenure security provisions of government policies as well as provisions that prevent the conversion of agricultural land to other uses. 4) Mainstream land issues by integrating strategies for enhancing land tenure security into food security and nutrition projects, strategies, and policies that currently lack a land component. 5) Increase cooperation among sectors working on food security and nutrition, on one side, and working on land and resource issues, on the other. 6) Engage in capacity building and training for government officials and non-government organization staff concerning links between land tenure security and food security. 7) Conduct additional research, collecting primary level field data and analyzing census data, to more closely and directly examine the land tenure security and food security relationship in Laos. Additionally, research the land tenure security and food security policies of other developing countries, particularly in the Mekong region.

1. Introduction: The state of land tenure security and food security in Laos

This report explores the relationships between land tenure and food security in Laos. There are two central objectives of the report: the first is to provide information to organizations working on food security and nutrition concerning the links between land tenure security and food security for purposes of mainstreaming land issues. The second objective is to support the policy dialogue on food security in Laos by providing information about the relationships between land tenure and food security as a means of enhancing food security related policies.

The underlying hypothesis of this research is that land tenure security is critically important for food security and nutrition. This hypothesis is explored by examining available evidence in research reports, papers, and secondary datasets. This study is an initial exploration of the links between land tenure security and food security throughout Laos and therefore focuses on a review of existing literature that either directly or indirectly examines these relationships. The study focuses on how these linkages manifest in Laos, but also makes comparisons with cases from other developing countries.

The report is structured as follows. The introduction reviews the current state of food security and land tenure insecurity in Laos. Section two provides a broad conceptual framework for analyzing the potential relationships between land tenure security and food security. Section three reviews data from Laos and other developing countries on the land tenure security and food security relationship, focusing on four themes: land access and food security, land and resource policies, land expropriation, agricultural commercialization, and land reform. The final section provides recommendations for incorporating land components into food security projects and policies in Laos, as well as approaches for strengthening land tenure security at multiple scales.

1.1 Food security in Laos

The accepted definition of food security from the UN Committee on World Food Security (CFS) is "food security 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" (CFS 2014)[4]. This definition is accepted by a number of organizations such as the UN Food and Agriculture Organization, the World Health Organization (WHO), the International Food Policy Research Institute (IFPRI), the International Fund for Agricultural Development (IFAD), and the World Bank.

Food security continues to be a critical development issue for the Lao People's Democratic Republic (Lao PDR or Laos). Laos has been successful a number of its Millennium Development Goals (MDGs) by the end of 2015, such as halving poverty (World Bank 2015). Laos's Millennium Development Goals (MDGs) on food security and nutrition are seriously off-track and will not be achieved by the 2015 deadline. MDG 1, aimed at eradicating extreme poverty and hunger includes the sub-goal to halve the proportion of people who suffer from hunger between 1990 and 2015. This includes three main indicator targets for Laos:

4 The FAO definition for food security can be found on their website: http://www.fao.org/economic/ess/ess-fs/en/. Accessed on 7 January 2016.

1. Reduce the prevalence of underweight children under five years of age to 22 percent.
2. Reduce the prevalence of stunting in children under five years of age to 34 percent.
3. Reduce the proportion of the population below the food poverty line to 19 percent.

Considering the significant challenges anticipated to meet MDG 1, nutrition was declared a priority issue in the 7th National Socio-Economic Development Plan (NSEDP) from 2011-2015. Additionally, government recognition of the importance of the issue is underscored by the recent establishment of the National Nutrition Committee and the multi-sectoral Food and Nutrition Security Action Plan. Lao PDR has, however, met the sub-goal of halving the proportion of hungry people between 1990 and 2015. However, one-fifth of the population consumes less than the minimum dietary energy requirements (UNDP 2015). However, the country has not been successful in meeting the three main indicator targets. The issue of food (in)security continues to be grave in Laos, as evident in the following figures:

- The Lao Social Indicator Survey (LSIS)[5] of 2011-12 conducted by the Ministry of Health (MOH) and the Lao Statistics Bureau (LSB) found that 27 percent of children under five are moderately underweight, 44 percent of children are moderately stunted (too short for their age), and 6 percent are moderately wasted (too thin for their age) (MOH and LSB 2012). Prevalence of malnutrition is particularly pronounced in certain parts of the country—one study found that stunting was as high as 74 percent in Luang Namtha province and 63 percent in Sekong province (Miyoshi et al. 2005).

- It has been estimated by the MOH that child malnutrition leads to a loss of national productivity and economic growth, costing the national economy $200 million annually, or 2.4 percent of the national gross domestic product (GDP) (MOH 2013).[6]

- Thirteen out of 17 provinces in Laos experience stunting levels among children under five, above the critical threshold of 40 percent set by the WHO (WFP 2013). The rate of stunting between 1996 and 2006 has remained unchanged, despite Laos experiencing a high rate of economic growth during this time period (WFP 2006).

- A study on the state of global food insecurity by found that 22 percent of Lao people are undernourished (FAO 2014).[7]

- The Comprehensive Food Security and Vulnerability Analysis (CFSVA) conducted by the WFP found that 13 percent of rural households have poor or borderline food

5 The LSIS collected data on the social situation of children, women, and men, covering a wide range of issues: health, nutrition, education, water and sanitation, marriage and sexual activity, fertility and mortality, contraception, HIV/AIDS, child protection, and use of mass media and information technology.

6 Pointing out the relationship between child malnutrition and national economic growth does not in any way negate the innate importance of the issue as one of child poverty and health.

7 The prevalence of undernourishment is defined by the FAO as the proportion of the population of a country whose level of dietary energy consumption is lower than the dietary energy requirement (Cafiero and Gennari 2011). For Laos, these data are calculated from 1) the average amount of food available for human consumption per person, calculated from food balance sheets 2) the level of inequality in access to that food based on the LECS consumption data and 3) the minimum number of calories required on average per person. Since viable food balance sheets have not been created in Laos to properly calculate dietary energy supply, FAO has calculated this indicator at the national level only (GOL and UN 2013).

consumption[8] and that two-thirds of rural households are at risk of becoming food insecure if they were to experience one or more shocks in a given year[9] (WFP 2006)

- Between 2002/03 and 2007/08, the percentage of the Lao population living under the food poverty line has actually increased from 20 to 25 percent, despite an overall decline in poverty during the same period (GOL and UN 2013)[10].

Based upon data collected in the Risk and Vulnerability Survey (RVS) by the Ministry of Agriculture and Forestry (MAF 2013), households with low levels of food security tend to have diets heavily based in rice consumption with low intakes of fats and protein[11]. They also have smaller plots of land, fewer vegetable plots and kitchen gardens, and, interestingly, engage in cash crop production as a primary source of income. Additionally, food insecure farmers tend to have low engagement in fishing and hunting or are unskilled laborers. They are asset poor, uneducated, and illiterate.[12] They live in villages with little or no key infrastructure and in environments with poor sanitary conditions (WFP 2006). Ethnic minority groups—non-Lao-Tai ethnicities—have higher rates of food insecurity, in part due to lower rates of land ownership. Sino-Tibetan ethnic groups are the most food insecure, followed by Hmong-Mien and Austro-Asiatic populations (WFP 2006).

Food insecurity is a key dimension of poverty and thus it is unsurprising that those who are food insecure in Laos tend to be the poorest and most marginalized populations, such as ethnic minority groups and women, particularly those with minimal access to economic, social, and natural assets.

1.2 Land tenure security in Laos

In addition to experiencing high levels of food insecurity and malnutrition, rural areas of Laos are also characterized by insecure land tenure and decreasing access to land and common resources.

8 Food consumption ratings are based upon a score calculated by the frequency of consumption of different food groups by a household during one week. While the rating system is fairly complex (cf. WFP 2006 for a detailed explanation), the hypothetical division of categories can be understood as follows. A household with a rating of "poor food consumption" is not expected to eat staples (cereals and tubers) and/or vegetables on a daily basis and can be considered to be chronically food insecure. A household with "borderline food consumption" consumes staples and vegetables daily, frequently consumes oils and fats (around four days per week), but are vulnerable to becoming food insecure if their food access decreases slightly. Households with "acceptable food consumption" are above the standard of borderline consumption, likely due to their more frequent consumption of oils and fats and their consumption of meat, fish, and other sources of protein. Their food consumption consists of sufficient dietary diversity for a healthy life.

9 This calculation is based upon the types of shocks that a household might face in a given year, depending on their livelihood activities and level of resilience of the household when facing different types of shocks such as drought, flood, loss of natural resources, and increases in staple food prices (cf. WFP 2006 for further detail).

10 People classified as "food poor" live in a household where the food items consumed per capita are below the requirement of 2,100 calories per day, as defined and collected by the LECS. A simultaneous decrease in general poverty and rise in food poverty could be a result of increased incomes but lower food consumption as households spend more money on non-food items and food prices have inflated (GOL and UN 2013).

11 The predominant livelihood profile of rural Lao households is comprised of agricultural production for consumption supplemented by hunting, fishing, and gathering of wild products for consumption and sale (Agricultural Census Office 2012). As a result, the typical Lao diet is both diverse, in that it contains a wide range of vegetables and forest products, but imbalanced due to a low intake of fats and proteins (MAF 2013).

12 In the WFP (2006) report, assets are understood as the natural, human, physical, financial, and social resources or capital that people use in their daily lives. Education refers to formal education—uneducated refers to people who have no or incomplete primary education. Although the research found a correlation between lack of education, illiteracy, and food insecurity, there may not be any causal relationship between these factors.

Land tenure security is defined as when peoples' access to and use of land and related resources is protected against the actions of others by systems of rights and governing institutions (FAO 2012).

Despite recognition within the national constitution (GOL 2003a), Land Law (GOL 2003b), and Forest Law (GOL 2007) of private and communal land rights, many of these rights go unprotected, or are ignored, infringed upon, and abused in practice.

There is compelling evidence of insecure land tenure in Laos due to problems related to formal and informal, or customary, land tenure systems. Formal land registration and titling is not sufficient for strengthening people's tenure security, but it is one indicator of a country's tenure security situation. While individual, household-based land titling has been initiated throughout the country, reaching more than 800,000 titles (VT 2014a), it is mostly limited to urban and peri-urban areas, and agricultural areas on the perimeters of the country's main cities and towns. Additionally, mostly residential rather than agricultural land was titled in areas where titling programs were carried out. Thus, most rural areas throughout the country do not have systematic land titling—land titles in such areas have mostly been granted on an ad hoc basis to those that request them and can afford the higher price for titling a single plot of land.

Considering the importance of food and resources produced from and collected on communal land in Laos (Foppes and Ketphanh 2000), the government has issued a ministerial instruction, (No. 564/NLMA) for communal land titling. To date, however, communal land titling has been extremely limited, as only two communal land titles have been issued throughout the country thus far and guidelines outlining the process of administering communal land titles yet to be issued (Schneider 2013).

Temporary land use certificates (TLUC), which give land users many but not all of the same rights as land titles, have been issued in some of villages where LAP was conducted, which by 2005 included 7,130 villages throughout the country (MAF 2005). TLUCs were intended to be converted into land titles after the three-year trial period was complete, but for the most part this has not occurred (Soulivanh et al. 2004). In many cases throughout Laos, rural people themselves prefer to not register their land in order to avoid paying taxes (Daley et al. 2013). Additionally, TLUCs were only administered for individual plots of land, thus excluding communal plots, which are larger in terms of area and highly important for dietary diversity and livelihoods.

Due to the limited extent of formal land registration and titling throughout the countryside, customary land tenure systems are commonly used by rural peoples, based upon local, largely village-level, rules of land and resource use. While such systems are appropriate for local land governance, they are not often understood or recognized by outside actors, such as government officials and policymakers, as representative of legitimate land rights. At present, Lao laws concerning land, agriculture, and forests do not recognize customary land rights. Proposed versions of the National Land Policy and an amended Land Law include some recognition of customary land, both of which have yet to be passed.

Concurrently, Lao people's access to land has declined over the past decades due to a number of social, political, and economic forces. Land and forest policies—particularly the LAP and the policy approach of stabilizing and eventually eradicating shifting cultivation—have been

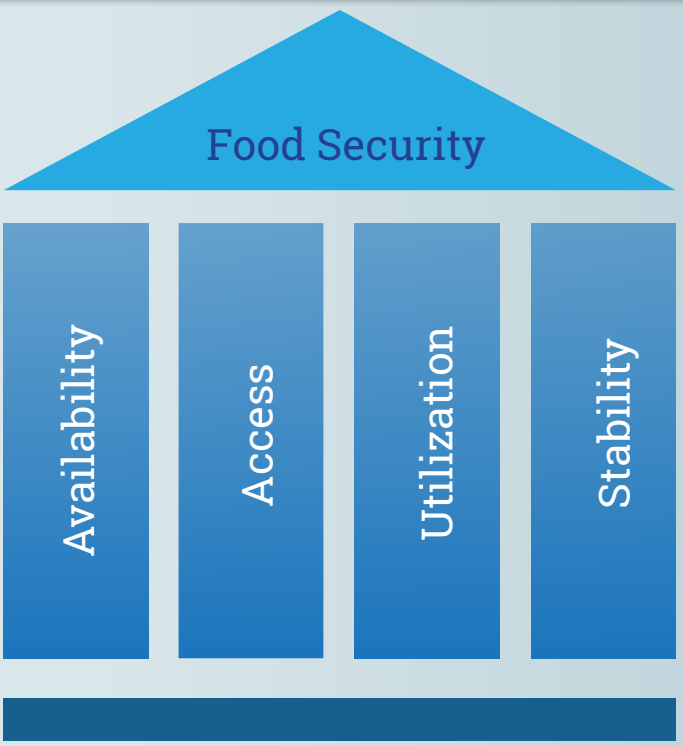
particularly problematic. They were aimed at formalizing and securing land tenure and improving agricultural productivity, but often had the effect of reducing farmers' access to agricultural land, resource-rich forest lands, and other lands for raising livestock (LSUAFRP 2004). Government policies and programs on relocation and village consolidation have also reduced village access to agricultural and forest lands, as the relocation sites typically lack the same availability of land as in the former village site (Baird and Shoemaker 2007, Cunnington 2011).

Based upon these findings, it is clear that the Lao PDR is characterized by food insecurity and malnutrition in rural areas and also by land and forest tenure insecurity. The presence of both food and land tenure insecurity does not prove causality, but does justify examining the nature of the connection. This is especially important considering that at the global level, secure tenure of farming and forest land is increasingly recognized as an important factor of household food security and nutritional status (FAO 2012, Landesa 2012).

2. FOOD AND LAND TENURE SECURITY: DRAWING THE LINKS

Food security is only achieved when supported by four pillars: food availability, food access, food utilization, and food stability, as represented in figure 1 below (WFP 2014).

Figure 1. The four pillars of food security



FOOD AVAILABILITY: food must be available in sufficient quantities and on a consistent basis. This considers the amount of stock and production in a given area—which, depending on the scale, could be the village, provincial, national, or regional/global level—and the capacity to bring in food from elsewhere, through trade or aid.

FOOD ACCESS: people must be able to regularly acquire adequate quantities of food, through a variety of means, including production, collection, barter, gifts, borrowing, food aid, or purchase.

FOOD UTILIZATION: consumed food must have a positive nutritional impact. Diets should be diverse and nutritious. Effective food utilization comprises a range of cooking, storage and hygiene practices, individuals' health, water and sanitation, and feeding and sharing practices within households.

FOOD STABILITY: when food is available over time and at all times, that populations are not at risk of losing access to food as a result of sudden shocks or seasonal dearth.

With the above in mind, it is clear that evaluating food security does not only concern caloric intake but also dietary diversity, food preference and many other factors. In certain cases, rural livelihood transformations may increase total caloric intake while decreasing dietary diversity and nutritional content. Thus, caloric needs and dietary diversity and nutrition all need to be evaluated when examining changes in food security. Subsistence livelihood diets tend to be more diverse, especially when accessing a wide variety of forest products, but are often lacking in protein and fats, particularly when there is a local decline in access to wildlife. A statistical analysis of the LSIS 2011 showed that increases in dietary diversity is related to reductions in the prevalence of children under five who are stunted, wasted, and underweight (Annim and Imai 2014).

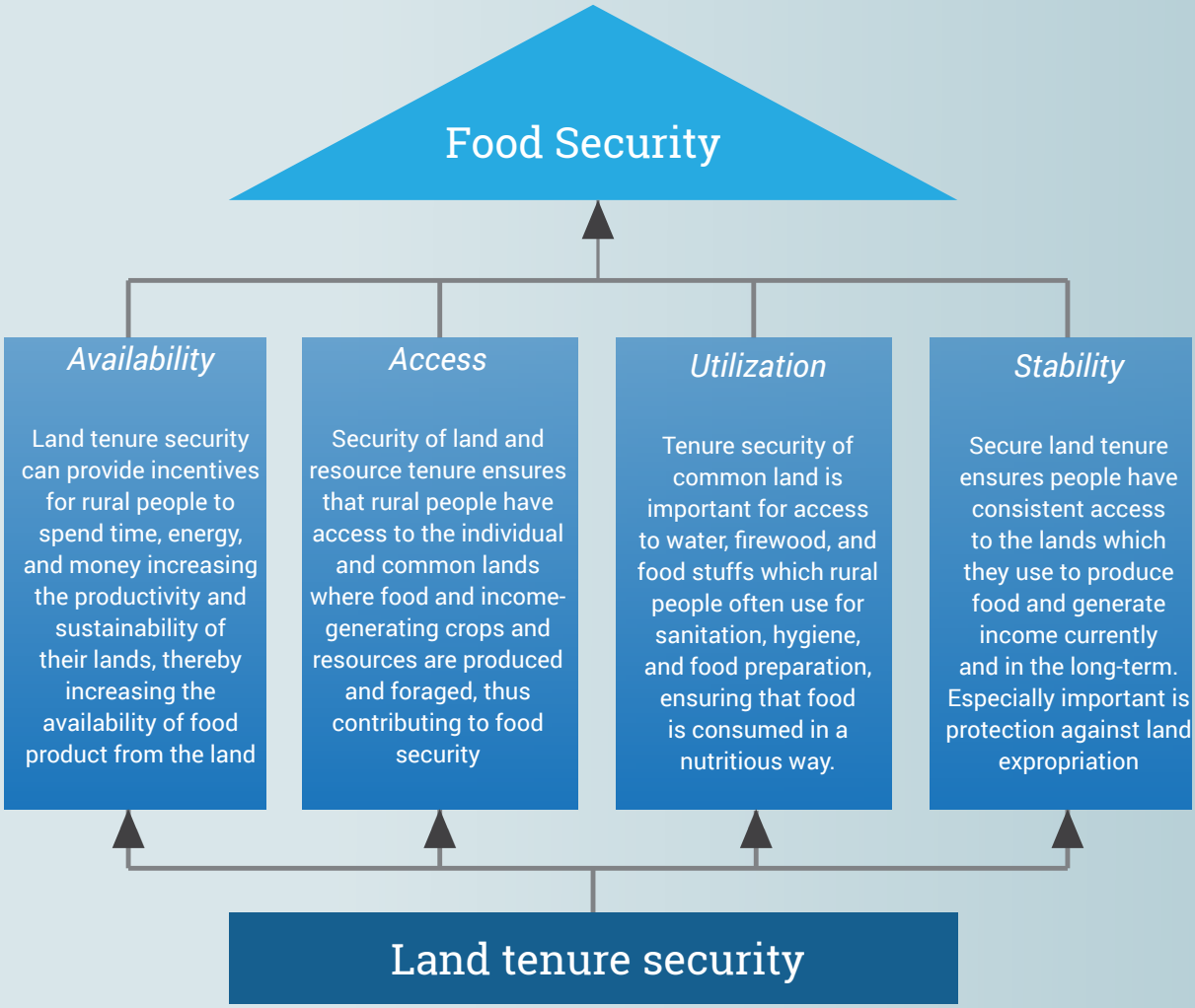
Land tenure applies to individuals, households, communities, or other social groupings and concerns a variety of land types, such as private agricultural holdings, common lands, and state-reserved land. Land tenure can be conceptually distinguished from resource tenure, which concerns the rights and institutions governing access to a wide variety of natural resources, such as forests, water, and fish.

When examining the relationship between land tenure security and food security it is important to distinguish between access to and ownership of land and natural resources. Access refers to the capacity of rural residents to use land and resources for the purpose of producing and collecting food or items that can be sold or exchanged for food (Ribot and Peluso 2003). Access, however, does not always equal ownership. While rural residents may be able to currently use land, without strong land tenure security they could lose access to such land in the future. Ownership, or other forms of secure land tenure, is when land use is both socially and legally recognized, respected, and defended.

Land tenure is often understood as containing a "bundle of rights" (Demsetz 1967), or many different rights to land that may operate in various combinations, some being stronger than other depending on the context. Some examples of these rights include the right to use land, the right to exclude others from using one's land, the right to inherit land from others such as family members, the right to defend one's land from expropriation, and the right to exchange or transfer these rights (Honore 1961). Land tenure security, is achieved when individuals, communities, or other groups maintain a majority or all of these rights and they are all strongly protected by social, economic, cultural, and political institutions, in the present and future, in ways that are stable and consistent. Land tenure is secure when it is socially and legally protected against the actions of others, particularly forced expropriation or eviction (FAO 2012).

With these definitions in mind, the potential relationships between land tenure and food security can be explored. The conceptual importance of land tenure security for food security is linked to all four elements of the food security definition. Figure 2 below expands upon the previous diagram to conceptually show how the four pillars of food security are in turn supported by the foundation of land tenure security.

Figure 2. Conceptual pathways and linkages between land tenure security and food security



LAND TENURE SECURITY AND FOOD AVAILABILITY: Strong land tenure systems can provide an incentive for smallholders to spend time, energy, and money investing in and improving their land and resources to increase agricultural and resource productivity (Godfray et al. 2010). An additional purported advantage of formalized land title is access to low interest credit. When rural people are confident that they can maintain control over their private and communal lands in the long-term when trust is established, and they are more confident that investment and stewardship of the land is worthwhile and will yield benefits in the medium and long term. Improving and sustainably managing land and forests can increase rural productivity of food products, cash crops, and resources. Increased food productivity and rural income enables diversified diets by purchasing food items that are typically lacking in rural diets, such as fats and oils (Fullbrook 2010).[13] Improved smallholder agricultural and resource productivity may increase the amount of food available in villages and local markets, thus increasing local food availability. Thus, ensuring that small-scale farmers have secure access to land is a critical means for increasing the availability of food.

13 Farmers, of course, may use the additional income to purchase non-food incomes, as was the case for tobacco contract farmers in Laos (Daley et al. 2013).

Land tenure security and food access: Secure land tenure provides consistent and protected access for rural farming populations to the lands upon which food and income-providing crops and resources are produced and collected (FAO 2014). This occurs through the direct production, collection and consumption of food products. It also occurs through the sales of cash crops and commercially valuable resources, enabling the purchase of food items. Without security of land access, rural people lose access to an essential source of food that is difficult to replace. Thus, secure access to land is a primary tool for ensuring access to food.

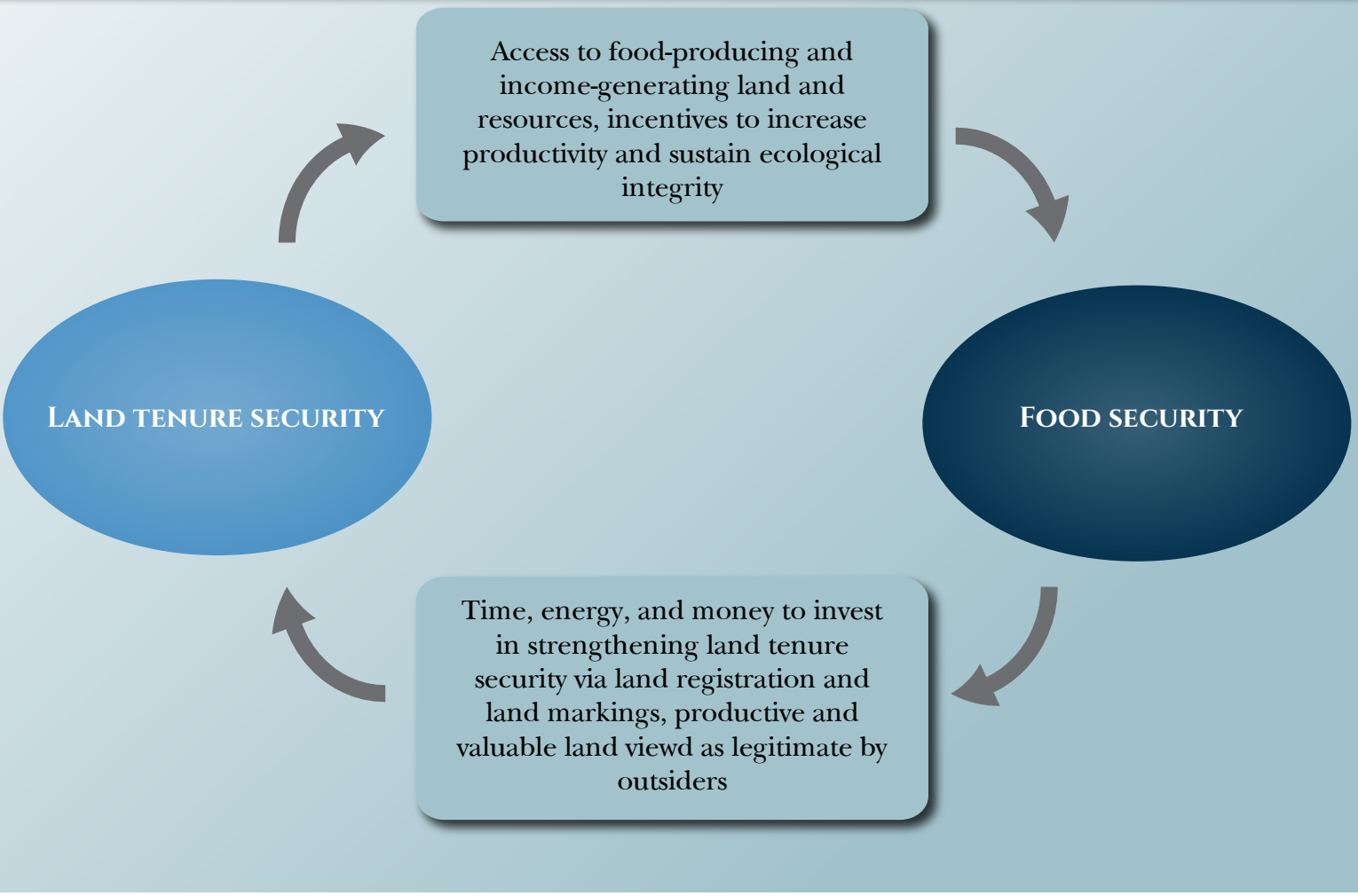
Land tenure security and food utilization: Food utilization, ensuring that food is consumed in a nutritious way, covers sanitation, hygiene, and food preparation. In rural areas, proper food utilization is contingent upon access to water, firewood, and foodstuffs, much of which likely comes from communally accessed lands, forests, and rivers, especially in the Lao context. Therefore, if rural people have secure access and tenure to commonly held lands then they will likely be able to access resources important for preparing and consuming food in nutritious ways.

Land tenure security and food stability: Secure land tenure is a mechanism for ensuring that people have stable and consistent access to food in the medium and long term, as well as seasonal access for lean periods. It provides legal protection against land grabs and expropriation and thus creates confidence among rural land users in their ability to access land and resources in the future. Additionally, when villagers have secure land tenure, they likely have an incentive to use their land and resources in ecologically sustainable ways as they are more confident that they will have access to land in the future. Therefore, ensuring secure access to land is a pathway towards stabilizing access to food over long periods of time.

The above points demonstrate the ways in which strong land tenure can enhance food security. Landesa (2012) has additionally pointed out that the positive links between secure land tenure systems and food security is even further strengthened when women have secure land rights at the household level.

The relationship between food security and land tenure is deeply interlinked, in that food (in) security can have a positive or negative impact upon land tenure (in)security. As presented by Maxwell and Wiebe (1999), the relationship between the two is cyclical and recursive (see figure 3 below for a visual representation of this relationship). Food insecure households may seek alternative livelihood strategies that compromise their access to land. In desperate situations they may sell their land and property, or they may out-migrate in search of work, leaving behind their land without anyone to defend it against encroachment by others. Conversely, households with secure food access, especially those with surplus income, have an incentive and means to make further investments in their land which may increase their security of tenure. Such investments could enhance the productivity and thus legitimacy of the land in the eyes of other land users and government offices, create boundary markings such as fences to protect the land from encroachment, or pay for land titling services that are not affordable for other households.

Figure 3. The cyclical relationship between land tenure security and food security



It is clear that land tenure security and food security reinforce one another and thus project and policy efforts should focus on ensuring a positive rather than negative cycle. In Kenya, for example, there is a correlation between title land ownership and agricultural productivity, but variation in productivity is driven by pre-titling access to inputs and output markets (Carter et al. 1994), and thus titling in some cases may be more of an effect rather than cause of productivity. In Laos, wealthier rural households can pay the district lands office to title their land and thus strengthen their tenure security.

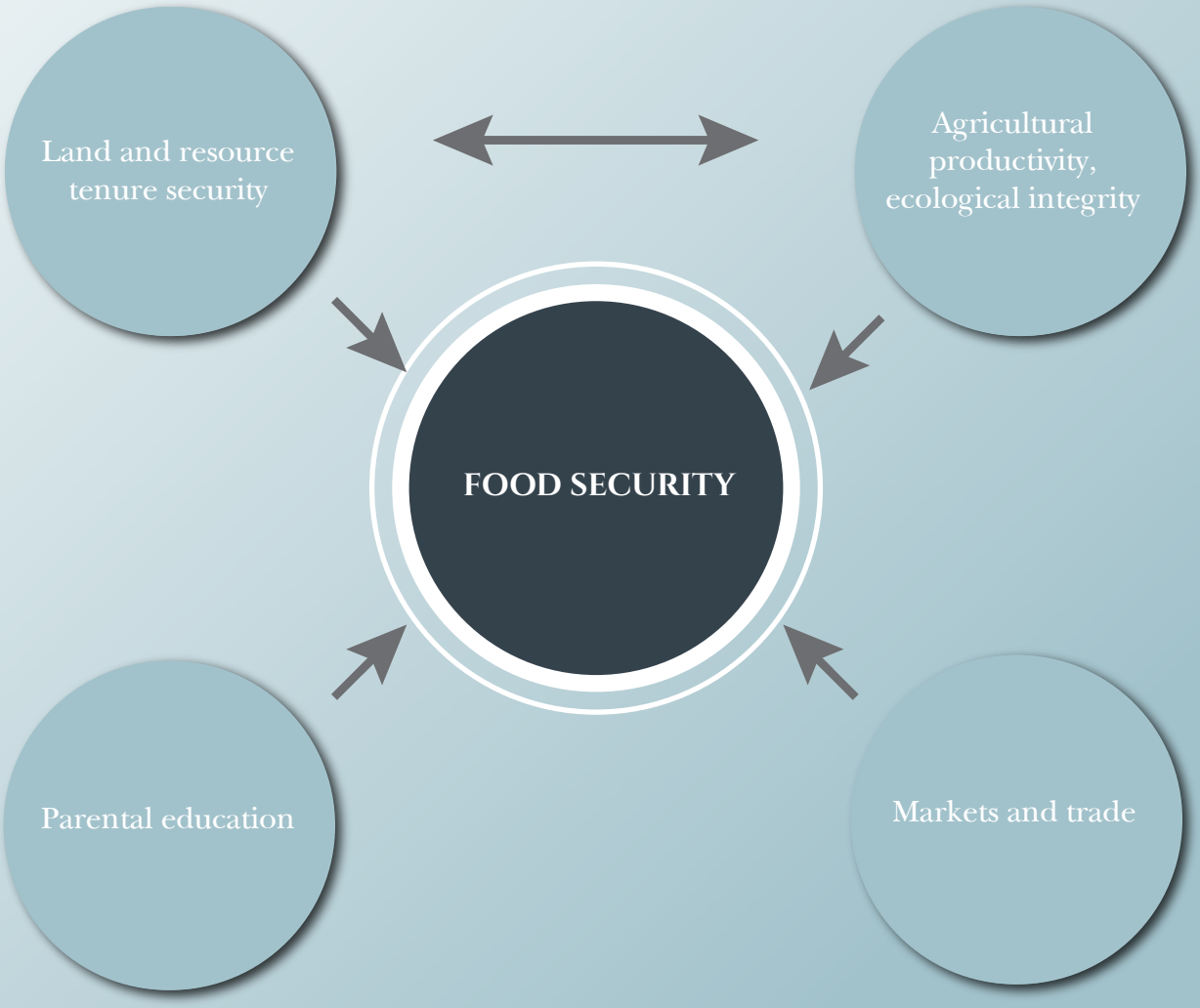
It is also important to recognize that in addition to the significance of land tenure for food security, other factors are important. Food security is multi-dimensional and thus achieving it is dependent upon supporting all aspects of the food security equation, not only land (FAO 2014), as represented in figure 4 below. Such aspects include, but are not limited to:

ECOLOGICAL QUALITY, DIVERSITY, AND SUSTAINABILITY: ecological environments of rural areas have tremendous impacts upon the potential for food to be produced and collected from the land. Biodiversity affects the range of forest products available for foraging, thus affecting nutritional diversity. Environmental sustainability plays an important role in determining the consistent ability of villagers to use the land to produce or collect food. Perhaps most important is soil quality, which swidden farmers are particularly attentive to when choosing land to clear for production.

MARKETS AND TRADE: the availability of market opportunities for rural people affects their ability to generate an income for purchasing food. Income generation may derive from selling produce of the land accessed or by wage labor opportunities. Either way, the dynamics of markets and trade in their locale have an important effect upon overall food security.

PARENTAL EDUCATION: a statistical analysis has shown that children under five in Laos have a lower prevalence of being stunted, wasted, or underweight if their mothers are educated or literate (Annim and Imai 2014).

Figure 4. Food security: a complex phenomenon



As a result of the complex interplay of various factors that amount to food security, it should be emphasized that food security is achieved as a result of a combination of various dynamics, within which land tenure security plays a key role.

3. Examining the links between land tenure security and food security in Laos

Reviewing evidence from Laos and other developing countries, a few broad patterns emerge from the many ways in which land tenure security and food security are related: First, reduced access to land, whether as a result of historical land inequalities or policies, programs, and investments, tends to increase food insecurity, especially without suitable livelihood replacements of equal or better conditions. Second, lack of secure land tenure is a prominent reason why rural people are not able to legally protect their lands in the face of political, economic, and social forces that threaten their access to land. Third, agricultural commercialization and rural marketization have the potential to increase rural incomes and food security, especially if farmers have secure land tenure, enabling them to fully participate in and benefit from such processes. Fourth, land reform and re-distribution can improve rural people's food security by increasing their access to land and security of tenure.

3.1 Landlessness, inequality, and low levels of ownership and access

Maintaining access to land and natural resources, such as forests and fisheries, is a critically important dimension of food security for the rural poor of developing countries (FAO 2014), especially Laos (WFP 2013). The rural poor have few assets apart from land and common resources. Livelihoods tend to be subsistence-based, reliant upon cultivating cereal crops, foraging wild forest products, hunting small game, and fishing in nearby rivers and streams. The little income that they do generate mostly comes from selling the crops they produce or natural forest products they collect—employment and business opportunities in rural areas farm from towns and larger villages are mostly land-related. As demonstrated by the studies cited below, secure access and control over land and natural resources is a major determinant of rural people's access to food, whether directly through subsistence or indirectly with income used to purchase food items.

In Laos, there is evidence that populations with lower access to or ownership of land are more likely to be food insecure and face problems of malnutrition. A study by Arnst (2010), which captured the voices and experiences of farmers in 14 villages in three provinces (Oudomxay, Champassak, and Vientiane prefecture), found that farmers report that serious and chronic shortages of food result from a lack of land and common resources, in combination with poor and decreasing soil quality. A farmer from Champassak province remarked that “Before, there was much land. But now we have nowhere to farm,” while a farmer from Oudomxay said that “We have limited land for production. We do not rotate the fields as before. We keep using it over and over. The land is losing its quality”. Similarly, a Champassak villager expressed that “We miss the rich soil which was our priceless inheritance”. The farmers attributed such food shortages to a number of interrelated problems: increasing population, shortened rotational cycles in upland fields, forced displacement, banning of swidden systems, economic concessions, and cash cropping and associated debt. As pointed out by one Champassak farmer, “In 2007, before the concession, there was forest. Not any more”. Farmers in the study also recognized that natural population increases, due to large families, led to decreased access to land.

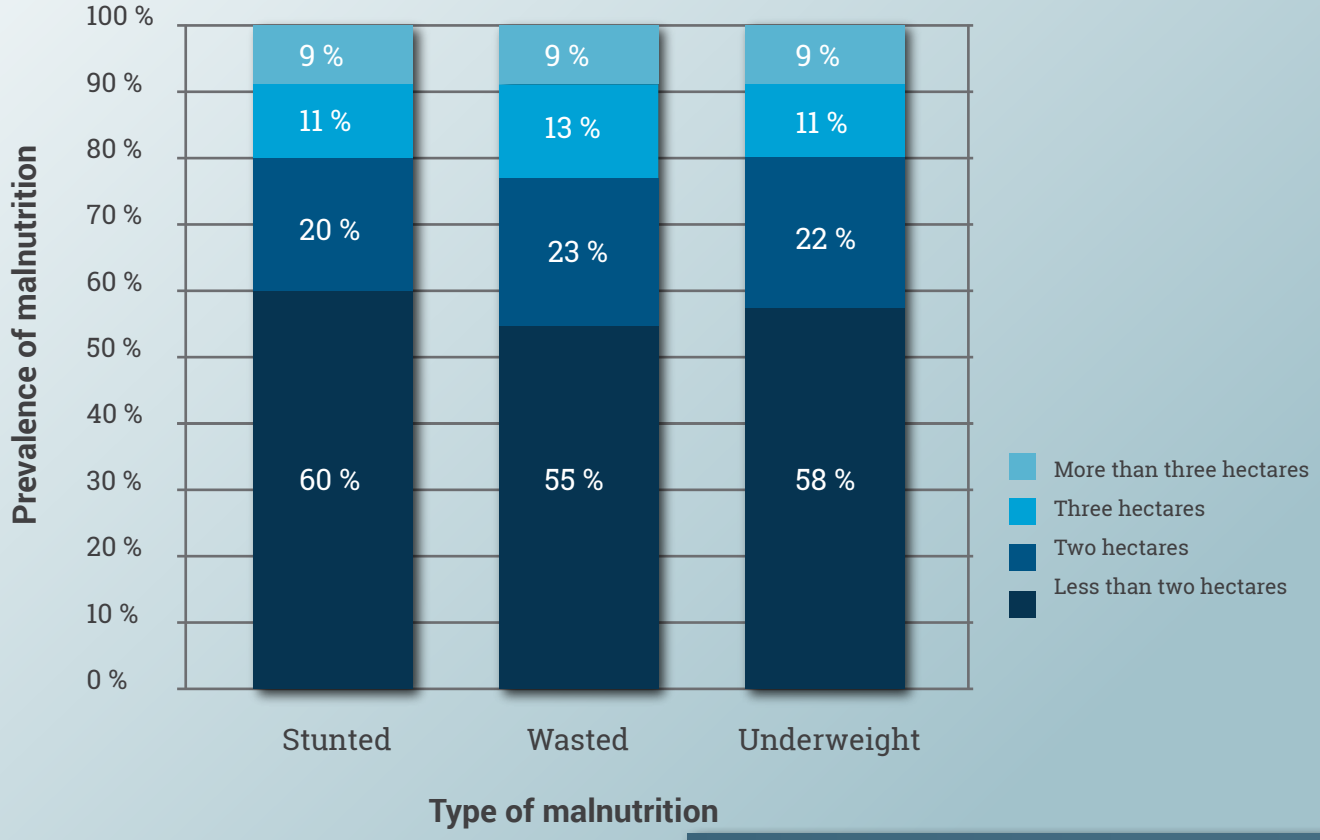
The 2006 Participatory Poverty Assessment (PPA) carried out by the National Statistics Center and the Asian Development Bank (ADB) arrived at similar results (Chamberlain 2007). The PPA collected data in 94 villages throughout the country, two villages in each of the 47 priority districts determined by the government to be the poorest in the country. The study captured the

perspectives of the rural poor concerning their poverty and its root causes. Villagers throughout the study sites identified limited access to cultivation land, especially for rice cultivation, to be the primary cause of poverty. They additionally reported that they lacked land as a result of attempts by official programs to re-allocate land use and ownership, to consolidate villages, and to reduce shifting cultivation, which led to population pressures and a scarcity of land resources. The implementation of these policies demonstrates a lack of secure access and tenure to land in the surveyed villages.

In a survey by Care International (Stoeber et al. 2013) of nine villages in Phongsaly, Khammouane, and Sekong provinces, women noted two measures that are critically important for improving food security in their villages. First, they expressed a need for increased food production in their home gardens and fields, and second, improved gender equity by reducing women's workload.

A study by Annim and Imai (2014), based upon the 2011 LSIS data, showed the importance of land size and ownership for nutrition. Malnutrition has significant impacts upon the development of children—it can lead to growth failure and stunting, reduced muscle mass and strength, and impaired intellectual development. Needless to say, malnutrition can have long-lasting damages upon children, and thus is one of the most critical development issues to address. As can be seen in figure 5 below, the majority of Laotian children under five years of age who are stunted, wasted, and underweight belong to households with less than two hectares of arable land. For children from households two, three, or more than three hectares of land, these figures fall significantly. [14]

Figure 5. Ownership of arable land and prevalence of malnutrition in Laos.



Data source: Annim and Ammai 2014.

14 The authors note that further studies are necessary to examine whether differences in location of the land, such as agro-ecological zones, provinces, and districts, and the type of land have an effect upon the relationship. Also, it should be noted that the authors did not compare these results with statistics showing the proportion of the overall population that has access to less than two hectares of land and thus does not indicate whether stunting, wasting, and being underweight is disproportionately skewed toward those with a lack of land.

The CSVA conducted by the WFP (2006) found that ethnic groups in Laos that have less ownership of land are more food insecure.[15] Table 1 below shows the relationship between levels of self-reported land ownership and food insecurity, as well as figures for the average amount of paddy land and upland agriculture for each group.

Table 1: Ethnic groups, food insecurity and land ownership in Laos.

Ethnic grouping	Food security ranking	Level of self-reported land ownership (%)	Average amount of paddy land (ha)	Average amount of upland agriculture (ha)
Sino-Tibetan	Most food insecure	17	0.4	1.4
Hmong-Mien	Second most food insecure	35	0.9	1
Austro-Asiatic	Third most food insecure	35	0.9	1
Lao-Tai	Fourth most food insecure	63	1.8	0.4

Data source: WFP 2006

Evidence from other countries also show the crucial impact that low levels of land access and ownership, or high levels of land inequality, have upon food insecurity. A statistical analysis of the relationship between land inequality and food insecurity for 41 developing countries reveals that land inequality is statistically related to food insecurity at the national level. Specifically, developing countries that have high levels of land concentration, with a large percentage of the population reliant upon agriculture for a living, and low levels of food availability, tend to be food insecure (Brigham 2003).[16]

Throughout Latin America, an important factor that underlies food insecurity is high income inequality, which is a reflection of unequal access to productive assets, including land. Guatemala is a case in point—between 1990 and 2003 the number of undernourished people doubled to 2.8 million and the prevalence of hunger increased from 16 to 23 percent of the population. An important contextual factor of the worsening food security situation is unequal access to land—two percent of the population own 72 percent of the agricultural land (FAO 2006b).

A study by the United Nations Children's Fund (UNICEF) on child poverty in Tajikistan found that the probability of a child being underweight is almost 50 percent higher if a child lives in a household without access to land than in a household with access to land (Baschieri and Falkingham 2007). Similarly, research conducted in rural areas of Bangladesh found that households when households had less than 0.8 ha of land, the prevalence severe child malnutrition increased to 34 percent compared to households that had 0.8 ha of land or more at a rate of 28 percent (Choudhury et al. 2011).

15 It is important to note that the sample size for the Sino-Tibetan ethnic group was so small that it should not be used to generalize for the whole group throughout the country.

16 Land concentration is defined as the distribution of agricultural landholdings, meaning all land that a household or person holds, not only owns. Land concentration was measured using a Gini coefficient, food availability is operationalized as the per capita dietary energy supply as a percent of the country's average minimum energy requirements, and food insecurity is measured by the prevalence of stunting in children under five. A potential reason why food availability does not have a large impact upon food insecurity in the absence of land inequality is that when land is equally distributed, even the small amount of food available will be more equally accessible.

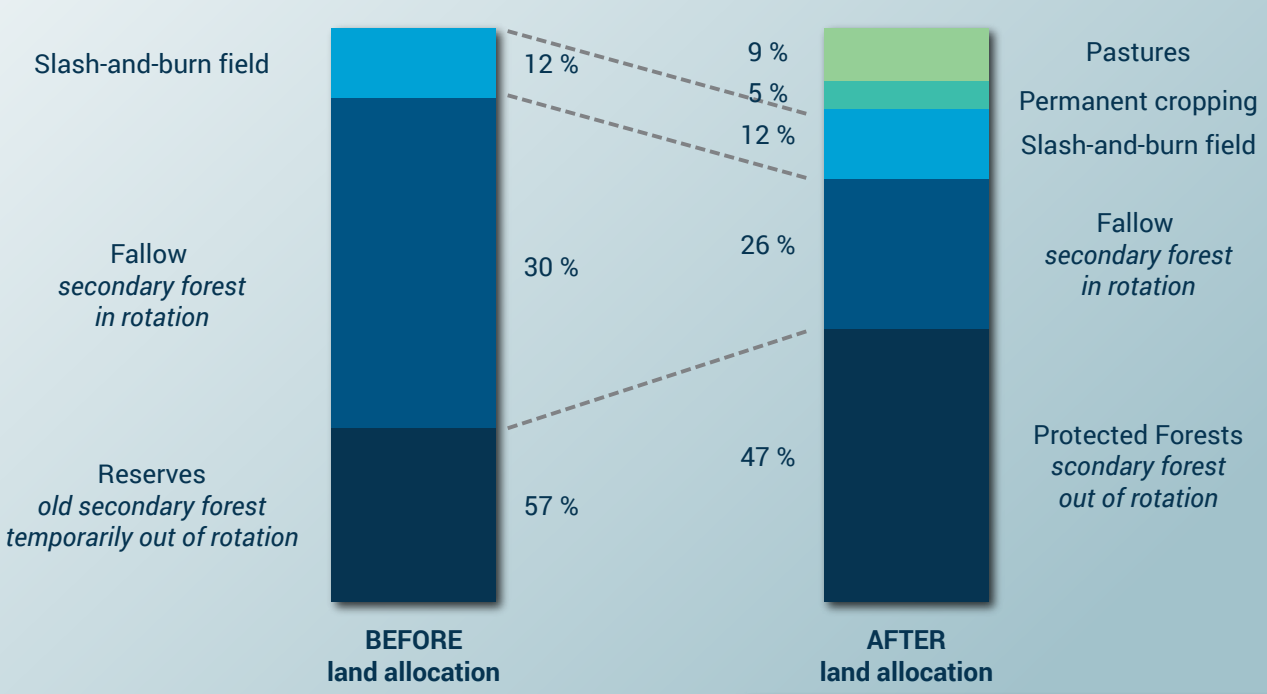
In Zambia, during the Southern African food crisis of 2002-03, unclear jurisdictional boundaries and weak authorities in the Kafue Flats region enabled renegotiations of property rights, which biased access to natural resources towards local elites. Households that reported increased difficulty of accessing natural resources experienced a decrease in diversity of income-generating activities, lower food intake, and a higher prevalence of impaired growth among their children (Merten and Haller 2008).

3.2 Land, Forests, and Natural Resource Policies and Programs

Political, economic, and social processes that decrease farmers' access to land and weaken their land tenure security have negative impacts upon food security. If poorly conceived, designed, and implemented, then policies, projects, and programs on land, forests, and natural resources can restrict farmers' access to land, forests, and other subsistence resources. This can threaten rural peoples' food security, especially in cases where alternative and viable off-farm livelihood options and food sources are not available.

Two major government policies that had a large impact upon land, forest, and resource access in Laos are the Land Allocation Program (LAP) and the resettlement/relocation policies. The LAP was intended to strengthen land tenure security, intensify agricultural production, and conserve forested areas by delineating village boundaries, zoning agricultural and forest lands, restricting swidden cultivation, and issuing temporary land use certificates. Ducourtieux et al. (2005) found that although the program has strengthened tenure security for wealthier, lowland paddy farmers, it has significantly reduced access to land for upland, swidden farmers, whose fallow lands were zoned as forest lands protected for conservation and who were left with an inadequate amount of fallow land for swidden production. An example of change in land access can be seen in figure 6 below, which calculates the average change in land uses before and after land allocation for twelve villages in Phongsaly province. As a result of reduced access to fallow lands, the long-term capacity for upland farmers to produce rice and other upland food crops decreased and they have had to seek alternative livelihood options.

Figure 6. Land use before and after land allocation in Phongsaly



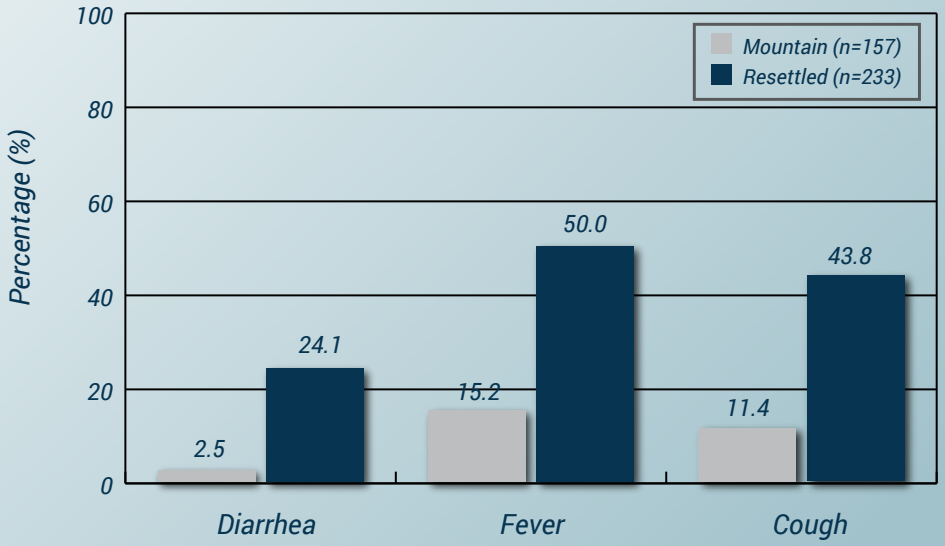
Source: Ducourtieux et al. 2005

Government relocation policies have had a significant impact upon food security by relocating villages to areas that have less land and natural resources available then their former villages. The lack of available land is largely due to the concentration of more people in larger settlements—there is particularly a lack of land left for new arrivals. Relocation can be separated into two broad classes: relocation as a result of government rural development and poverty reduction strategies and relocation due to public and private sector development projects. Generally, research on the former type of relocation has shown that the negative impacts upon livelihoods outweigh the positive ones, especially in the first years after resettlement (Cunnington 2011). While positive impacts include improved access to education and health services, wage labor opportunities, and market access, negative impacts include disease outbreaks, reduced access to land and resources, lower nutritional levels, reduced social cohesion, and increased vulnerability to human trafficking and new forms of drug addiction (Goudineau 1997).

A study by Douangsavanh and Phouyyavong (2007) in Phonsay and Namo districts of Luang Prabang and Oudomxay provinces, found significant levels of food insecurity as a result of population pressures, due to spontaneous migration as well as relocation policies. Villages in Namo district reported an average of three to four months of rice insufficiency per year while the figure was 6.4 months per year for Phonsay district. Wealthier farmers in Namo district were able to gain higher upland rice yields by hiring labor and purchasing higher quality land. In both districts, population pressures created land shortages which led to a reduction of shifting cultivation fallow cycles, a decline in soil fertility, an increase in weed and pest problems, and ultimately lower rice yields. Population pressures also led to declines in the availability of NTFPs, an important part of local diets.

Research conducted by Miyoshi et al. (2005) shows that levels of poverty and food insecurity in Long district, Luang Namtha province and Kalum district, Sekong province, are highly influenced by access to land. In particular, villages that had been relocated from the uplands to lowlands experienced an unstable living environment, which had adverse impacts upon their access to food and health. Food insecurity was extreme in Kalum district where about half of the study households producing only enough for three months of the year. Children of the Kui ethnic minority group in Long district were particularly severely impacted, with high levels of morbidity and food deficits, leading to a high prevalence of wasting. Figure 6 below shows a comparison of the prevalence of child morbidity due to diarrhea, fever, and cough in mountain versus resettled villages in Long districts.

Figure 7. Morbidity of children in Long district.



Source: Miyoshi et al. 2005

When households lose access to land, forests, and other natural resources, there are a number of potential coping mechanisms that they can apply in attempt to achieve food security. One possibility is to search for paid work and use the income to purchase rice and other food items. The success of such a coping mechanism depends upon the amount of work available in the area and the wages paid. Additionally, such opportunities are generally more available to men than women. Stoeber et al. (2013) found that women are less able to find paid work then men due to a lack of available time and the required social networks to locate such opportunities. Similar results have been found in India where men have been able to access the better paid, non-farm jobs, leaving women to manage agricultural production (Rao 2006).

Case 1: Relocation and food security in Nga district, Oudomxay province

Phonsavanh village*, located in a valley one kilometer from an access road which was newly cut in 2008, is home to 173 households. In 1979, however, only 17 households lived in the village, the large increase in population was mostly due to the resettlement of households from other villages in the vicinity since 1997—two villages in their entirety resettled into Phonsavanh village. The bulk of the relocation, which was a result of government policies that involuntarily resettled villages from upland to lowland areas, took place in 2002/03. Food security and livelihoods in the village were jeopardized as a result of the involuntary population increase. There is insufficient farming land in the resettled village where most households cultivate swidden cultivation plots with a fallow rotation period of three years or less. Many of the resettled households continue to return to their former village lands to grow rice where fallow periods are five or years in length. The amount of rice produced in the resettled village is insufficient for 52 percent of the households, who lack rice for three or months per year, and have to purchase or borrow to make up the deficit. Additionally, NTFPs have decreased significantly and labor opportunities in the area are inconsistent. The poorest households of the village have seen a decrease in their number of income sources in the past ten years, indicating that their vulnerability to shocks may have actually increased.

Source: Cunnington et al. 2008. *Village pseudonym used to protect village identity.

3.3 Large-scale land investments and land expropriation

Large-scale commercial land investments, particularly those that have resulted in the expropriation of farmers agricultural and forest lands, have had negative impacts upon smallholding farmers. Such investments result in increased food insecurity when they dispossess people of lands that had previously been used to produce and collect food or products used for consumption or income generation. While such investments may provide employment opportunities to those that have lost land, the evidence cited below shows that typically there are not enough well-paying jobs to replace the food produced and income generated from lost land. Land expropriation, without alternative livelihood options, is a major threat to rural food security.

Throughout Laos, land concessions have been granted at a rapid pace over the past 15 years—a national dataset on land concessions found that 1.1 million ha of land had been granted to investors for plantation, infrastructure, and mining projects (excluding the area granted for mineral exploration) (Schoenweger et al. 2012). The area of granted land is equivalent to roughly the size of Savannakhet province or nine percent of the total land area of the Lao PDR. A number of studies have shown that land concession projects overlap with village lands and reduce village access to land (Barney 2007, Obein 2007, Baird 2010, Kenney-Lazar 2012).

Land concessions jeopardize food security by leading to a loss of agricultural lands and forests that households rely upon for food and income. Lands viewed as high value by the GOL such as rice paddy, cash crop lands, and primary forest are in some cases cleared by concessionaires, but the majority of land cleared tends to be swidden fields and fallow lands or secondary forest, which are viewed by the government as less significant, but are critically important for local livelihoods and food security. The loss of communal forest lands has a particularly negative impact for women who in many villages do most of the work collecting NTFPs and as a result of losing such land have to travel further and spend more time searching for NTFPs in other areas (Daley et al. 2013).

Research in Laos and other countries, has also shown that such projects often lead to decreases in food security for communities that have been dispossessed of significant amounts of land, particularly in the immediate years after the project has been implemented or when the project is in its earlier stages (Barney 2007, Obein 2007, Baird 2010, Balachandran et al. 2012, Kenney-Lazar 2012). Longitudinal research has not been conducted to be able to determine if food security may increase in later years.

Case 2: Land expropriation and food insecurity in Bachieng district, Champassak province

Land concessions, especially for plantation development, are a highly visible example of how land expropriation weakens food security when people lose access to household and communal agricultural and forest lands due to weak land tenure security. When the Viet-Lao Rubber Company (VLRC) was awarded a 10,000 ha land concession in Bachieng district, 33 villages were directly impacted, 18 of which were left with less than 10 percent of their original agricultural lands and four villages with no remaining land. In addition to agricultural land, significant amounts of forest lands were also lost where villagers had collected NTFPs, fished, and hunted. Lands lost were compensated far below their market value—household coffee gardens were compensated at a rate of 500,000 kip per ha despite that they could generate an annual income of two million kip. Additionally, compensation was not provided for land without a land certificate, even if it had been used for many years. Wage labour on the rubber plantation was not a suitable livelihood alternative due to the lack of available work and the low wages provided. The average number of working days across the district was less than a quarter of the working year, only during the harvest season each year. Wages were initially only 25,000 to 30,000 kip per day, but have since increased to 50,000 kip per day. Although the project and village livelihoods continue to develop and change, it is unlikely that the compensation and labor opportunities fully accounted for loss of food-producing and income-generating land and resources.

Sources: Obein 2007, Luangaramsi et al. 2008, and August 2015 interview with Bachieng DAFO, Champassak province.

While many projects in Laos provide some form of wage employment for villagers that have lost land, studies have shown that that jobs are few, infrequent, inconsistent over the long-term, and low-wage (Wright 2009, Baird 2010, Fullbrook 2010, Molina 2011). Wages on estate-based rubber plantations range from 25,000 to 30,000 kip per day and villagers work on average a quarter of the working year (Luangaramsi et al. 2008, Kenney-Lazar 2010). Furthermore, there are reports from multiple plantation sites that daily wage rates are reduced by up to 10,000 kip per day when labor supervisors take a cut of the pay (Molina 2011). As a result, new, employment-based livelihood opportunities offered by the projects are often unable to meet the level food security provided by former land-based livelihoods. As importantly, households that have ceded their land entirely to concession schemes and have made a complete transition to wage labor are highly vulnerable to food insecurity should they lose their employment opportunities (Wright 2009).

Fullbrook (2010) has demonstrated that throughout Laos a food security paradox has emerged, in that the country's development policies have emphasized the extraction and production of resource commodities over rural livelihoods and environments, which has threatened food security, particularly when land tenure security is jeopardized.

Similarly, research on a large-scale Malaysian palm oil investment in Liberia has shown that affected communities showed significantly lower levels of food security, as measured by indicators of food access, availability, and dietary diversity (Balachandran et al. 2012). While some households reported improved livelihoods due to gainful employment with the company, employment was not available to the majority of affected persons, partly due to high competition for jobs by migrants from other parts of the country.

In Vietnam, a major cause of agricultural land expropriation is industrialization. A study focused on Hung Yen province of the Red River delta found that the forced conversion of agricultural land to industrial zones and clusters was occurring at the expense of peasant farmers losing their agricultural lands without providing stable employment (Nguyen Thi et al. 2010). Additionally, industrial development had reduced quality of life in the area due to environmental pollution and high living costs. Of the surveyed households, 77 percent were unable to produce enough food for their own consumption.

3.4 Agricultural Commercialization and Rural Marketization

Although agricultural commercialization and rural marketization does not directly concern land tenure security, there are many indirect links between cash cropping, land tenure, and food security. Additionally, agricultural commercialization rural areas has become a central component of the GOL and development partners' plans and policies for rural development and has become and will continue to be an important part of the Lao rural landscape. Agricultural economists argue that market transitions and agricultural commercialization lead to increases in food security as farmers have the potential to generate income and diversify their diets by purchasing a wide range of food items which were formerly difficult to access (von Braun and Kennedy 1994). However, dependence upon the market for food creates vulnerability and risk as a result of market uncertainty (Chambers and Conway 1991, Wiebe 1992). While subsistence livelihoods carry their own production risks, as a result of weather, pests, and crop diseases, relying upon the market for food introduces a new set of vagaries, quite distinct from those of subsistence farming.

In Laos, like many other developing countries, the households that mostly engage in commercial agricultural schemes have more natural, financial, and physical assets, in particular they have access to more land to convert to cash crops (Wright 2009). Limited land prevents the rural poor from engaging in commercial agriculture, and in cases when they do so, they may become overdependent upon cash cropping, which is risky should the farmer be unable to sell the crop at a decent price or sell the crop at all and be left with little to eat. This may help explain the finding from the RVS (MAF 2013) that one population group of food insecure households are those that engage in cash cropping as a primary source of income.

Dependence on cash crops creates a number of additional risks. Farmers that have invested in and converted all of their land to a single cash crop put themselves in a dangerous position if prices drop suddenly, which is common for many cash crops. The recent drop in rubber prices has devastated rubber farmers in Luang Namtha, prompting a number of farmers to sell their land just to get by (VT 2014b).

Case 3: Food security impacts of cash cropping in Houn district, Oudomxay province

The results of a study on the food security impacts of cash cropping in Oudomxay province shows how a number of different risks related to agricultural commercialization manifest and converge, with devastating impacts upon rural food security. In 2003, Naphok village of Houn district signed a contract with a Chinese agribusiness firm to grow rubber in an arrangement by which the rubber would be grown on farmers' land, the farmers would use their own labor to cultivate the trees without paid wages, and upon harvest the farmers would receive 40 percent of the product. The village was pressured into the arrangement by local government officials and did not negotiate the conditions of the contract. Many of the farmers that engaged in the scheme converted their rice-producing land to rubber and their food security situation decreased significantly. Villagers had less time to gather NTFPs because of the increased amount of time they spent working on the plantations, and they additionally worried about consuming NTFPs because of the large quantity of herbicides used for cash crop production. Farmers became increasingly reliant upon purchasing food, particularly rice, from the market, and as a result had little remaining income to purchase other food items to diversify their diet, like meat and fish, as they had done before when they produced their own rice. Additionally, farmers increasingly took on high levels of debt at steep interest rates to pay for food items, debt which they often could not pay off, thus leaving them in a constant cycle of debt. A number of households in the village began eating less or skipping meals, with dangerous impacts—one household reported that "my wife was almost killed due to a serious stomachache; one day we went farming but we didn't have enough rice to eat so we both ate only breakfast and skipped lunch to save it for our children". The village lacked food at the time of research in part because rubber trees require up to seven years of growth before they can be tapped, and thus villagers had not yet earned a return on the crop yet. However, the 40 percent of the crop to be allocated to the villagers and the recent drop in rubber prices further jeopardizes their prospects of making up for their losses.

Source: Nanhthavong 2013.

Equally risky is reliance on market-purchased food to meet households' basic needs. Food prices fluctuate more frequently and dramatically than wages do. Inflation on its own can significantly increase food prices, which makes meeting household food needs difficult when wages do not keep up with inflation. Food price inflation has been cited as one of the possible reasons for the rise in food poverty between 2002/03 and 2007/08 as food prices increased by about 39 percent during that time period (GOL and UN 2013). The other cited factor by the GOL and UN (2013) is greater spending on non-food items: as household cash incomes have increased so has their spending on non-food items, thus reducing the potential for income generated to increase food security.

Isakson (2009) has shown how marketization in the Guatemalan highlands has in some instances complemented rather than eroded peasants' biologically diverse agricultural practices when they have been able to selectively incorporate only the market practices that are suitable for their livelihoods.

3.5 Land reform and redistribution

When policies, development projects, and investments decrease rural people's access to land, food availability and access decrease. Conversely, evidence from across the developing world also shows that increases in land access and strengthening of land tenure is linked to increased food security.

Brazil has been highly successful in reducing food insecurity, both achieving the MDG target of halving the proportion of its people who suffer from hunger and the World Food Summit target of reducing by half the absolute number of hungry people. This success is attributable in part to policies that have allocated more than 50 million hectares of land to over 600,000 poor, landless families (FAO 2014). Similarly, Bolivia has reduced food insecurity by increasing access to land for indigenous communities and smallholder farmers, offering tenure security to previously marginalized peoples.

Between 1990-92 and 2001-03, both China and Vietnam drastically reduced the number and percentage of hungry people in their country as a result of continuing economic reforms, which included providing farmers with greater land tenure security (FAO 2006b). During this time period, China decreased the number of hungry people from 194 million to 150 million and the prevalence of malnutrition from 16 to 12 percent while Vietnam reduced the prevalence of undernourishment from 31 to 17 percent and the number of undernourished people from 21 to 14 million. Both countries achieved success in improving food security through a combination of economic and agricultural growth with land tenure reforms in rural areas. China's agricultural reforms began in 1978 when families were allowed to lease land from state collective farms. As a result, rural per capita income increased by 90 percent between 1980 and 1985. Vietnam's agricultural reforms were carried out in the 1980s when they provided farmers with greater control over agricultural land, allowed them to increase their sales to the market, and reduced agricultural taxation.

Azerbaijan and Georgia have both been successful in reducing hunger from previously high levels, despite being engaged in armed conflicts in the early 1990s. As part of economic reforms implemented, both countries allocated agricultural land to individual households, which were subsequently titled, helping to increase agricultural production and reduce hunger (FAO 2006b).

4. Recommendations

Based upon the research conducted, a number of recommendations are made for increasing food security in Laos through enhanced land tenure security. By following these recommendations, the Lao PDR will be more likely to achieve food security for the country's rural poor.

Recommendation 1

In the case of land investments that overlap with people's lands, the people should have the right to choose or refuse the proposed land use. This is consistent with LIWG recommendations for the National Land Policy on defining clear principles for the expropriation of land. If the land belongs to a private individual, that individual should have the right to choose or refuse to concede their land. If it is communal land then a large majority of the community should have to provide consent in order to concede the land, at least two-thirds of the community and ideally 80%.

Recommendation 2

Improve land tenure security in rural areas through multi-pronged strategies, promoting the expansion of formal land registration as well as the recognition of non-formal, customary or partially implemented land tenure systems. Government and non-government agencies should continue to implement formal land registration and land allocation programs that have already been initiated, such as communal land titling, individual land titling, transforming TLUCs into permanent land titles, and conducting participatory land use planning (PLUP). This includes conducting high quality PLUP and community land titling to define agricultural land zones if possible and if resources are available. Simultaneously, organizations should seek ways to improve the security of land tenure systems that are already in place due to the slow pace of new formal land registration. Such land tenure systems include TLUCs, LUPLA land maps, and village land registration or tax receipt documents. More importantly, efforts should be made to increase recognition among the public, government agencies, and the private sector of village-level customary and communal land tenure systems and rights.

Recommendation 3

Enhance and broaden advocacy efforts to strengthen legal land tenure security provisions of government policies, particularly in the proposed versions of the National Land Policy, amended Land Law, and amended Forest Law. Additionally, government policies and legislation need to be strengthened to prevent the conversion of agricultural land to other purposes.[17] For the National Land Policy and Land Law, see the LIWG recommendations concerning a wide range of improvements to be made concerning expropriation and the right to choose, conditions of public versus private purpose expropriation, communal land titling, and customary land tenure (LIWG 2014).

17 This follows certain regulations that prevent agricultural conversion, which need to be strengthened. One such regulation is Announcement No. 830 (2014) of the Lao Government Office addressed to the governors of Phongsaly, Luangnamtha, Bokeo, Oudomxay, Luang Prabang, and Xayabouli, advising them to prevent the conversion of paddy rice land to banana plantations. Another example is the Prime Ministerial Instruction No. 09 (2014) preventing the conversion of irrigated agricultural land to other uses in the area of the Nam Theun 2 hydropower project in Khammouane province.

Recommendation 4

Integrate strategies for enhancing land tenure security into food security and nutrition projects, strategies, and policies that currently lack a land component. As demonstrated by the above research, land tenure security is an important and integral component for achieving food security for rural Lao people. Therefore, projects, strategies, and policies will be more likely to reach their goals of increasing food security if they recognize and incorporate land access and land tenure security. One important way in which food security and nutrition projects can include land issues in their programs is to provide legal education to their target villages concerning their legally provided land rights. Such organizations could also engage in participatory land use planning (PLUP) and land registration work, such as implementing communal land titles.

Recommendation 5

Increase cooperation among sectors working on food security and nutrition and those working on land and resource issues. In order to integrate land issues and tenure security as an important component of work on food security and nutrition, it is necessary to enhance understanding and strategizing across sectors that have not previously worked closely together. Opportunities ought to be created for open discussion among organizations and staff from both sectors so that they may explore the ways in which their project foci are interrelated and also to learn about the key issues of each sector.

Recommendation 6

Engage in capacity building and training for government officials at all levels and in multiple sectors, and civil society staff from a variety of different types of organizations, concerning the ways in which land tenure security and food security are interlinked and how their work to achieve food security can be enhanced by including land tenure security as an important component. Government and civil society staff work on the front lines of improving food security in Laos and thus have the greatest potential to address land issues and increase land tenure security in their daily work. Capacity building and training should especially focus on the current status of land tenure security in local areas and how existing forms of land tenure, such as customary forms of land tenure or partially completed land programs, can be recognized.

Recommendation 7

Conduct additional research, collecting primary field data and analyze census data, to directly and closely examine the land tenure security and food security relationship in Laos. Additionally, conduct research on the policies used by other countries, especially in the Mekong region, to enhance land tenure security and food security simultaneously. While this report has covered a range of research studies that provide clear evidence of the importance of land tenure security for achieving food security, most of the studies have only indirectly examined this relationship and in specific cases. In order to generate a more detailed and coherent picture of the relationship, additional research needs to be conducted that examines the relationship across a large sample of field sites throughout the country and with longitudinal follow-up. In addition to understanding the extent of the relationship throughout the country, such research could enhance understanding of the specific pathways through which land tenure security most effectively increases food security.

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