

博士論文要約（Summary）

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連合農学研究科 生物生産科学専攻

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タイトル	Nutritional Status and Health of Vulnerable Populations in Rural Southern Laos with Special Focus on Ethnic Minorities
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キーワード（**Nutritional status**）（**Vulnerable populations**）（**Southern Laos**）

「序論及び目的」

The current study focused on the nutritional status as well as the relationship between health and nutritional status of vulnerable populations in southern Laos. Special focus was given to ethnic minorities. The study subjects were children below 5 years and elderly above 65 years because nutrition plays a key role in the growth of children as well as functional ability of elderly.

This study specifically set out to 1) assess the impact of natural disasters (case study of the 2009 typhoon Ketsana) on the nutritional status of children below 5 years and to determine the factors that predict poor nutritional status in these children, 2) to assess the nutritional status and functional capacity (ADL and IADL) of community-dwelling elderly as well as investigate the predictors of malnutrition among these elderly, 3) to develop frameworks for the causes of malnutrition for children and elderly in the research area based on results from objectives 1 and 2.

「材料及び方法」

The studies on children were carried out in Somsouk village, Sanamxai district and the research subjects were from a minority ethnic group called Oy in Somsouk village. All households with children between 6-59 months of age whose caretakers were willing to participate were

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included in the study. In August 2009 the first research was carried out on 42 households with children below 59 months of age. A year later, after the typhoon, the second research was carried out on 61 households; including 18 of the 42 households that had been researched on the previous year. In the second study, data was collected from 43 households for two consecutive years in 2010 and 2011 to determine the prevalence of stunting in a population of children below 59 months. Methods used to collect data for children included anthropometric measurements, social economic status (SES) questionnaire, food frequency questionnaire (FFQ) and focus group discussions (FGD)

In case of the elderly, in 2012, data were collected from 144 elderly subjects: 53 from the Somsouk village, 41 from the Phouhome village and 50 from the Vatluong village. All of the elderly present in these villages who could be measured and were able to respond to the questions asked at the time of study were included in our study. One hundred twenty six of the 144 respondents were included in another study in 2013 to re-assess their nutritional status and also assess the predictors of nutritional status. Methods used to collect data for elderly included; The mini nutritional assessment (MNA) questionnaire, the Disease, Eating poorly, Tooth loss, Economic hardship, Reduced social contact, Multiple medicines, Involuntary weight loss, Needs assistance in self-care, Elderly years above age 80 (DETERMINE) Your Nutritional Health checklist, the Barthel Index ADL questionnaire as well as the Lawton and Brody IADL questionnaire. Data on the socioeconomic situation was collected through a structured questionnaire that was prepared by the researchers and focus group discussions were also held to

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find out general information about the ethnic groups and study areas.

「結果」

Findings showed that as a result of the 2009 typhoon Ketsana, households lost up to 30% of their livestock and up to 50% of their rice stock. Fish in the fish ponds also swam away into the neighboring rivers, this reducing fish stock. In order to reduce the impacts of the typhoon, many households opted to use various coping strategies like receiving food aid from the government and NGOs (50Kgs of rice grains and 5Kgs of rice seeds per household), begging and borrowing food and money from relatives and finding alternative food sources in forests and rivers. Use of these coping strategies helped in stabilizing food consumption although consumption levels did not return to their initial levels.

Findings also showed that the prevalence of malnutrition in children from Oy ethnic minority was higher than the results for the overall prevalence of malnutrition in Laos (71.4% and 72.1% for stunting and 52.4% and 49.2% for underweight pre-post typhoon respectively in comparison to 40% for stunting and 37% for underweight reported for national statistics). Gender, age and family size were the best predictors of poor nutritional status with female children, younger children and children from households with more than 5 family members being more at higher risk of malnutrition. In addition, stunting was seen to be more prevalent in children who were fed on food other than breast milk before 6 months of age and there was a significant difference in stunting prevalence based on the age at which complementary feeding was started. (p<0.01)

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Among the elderly, based on MNA score results, the prevalence of malnutrition in all respondents irrespective of ethnicity was high (92.5%, 85.4% and 60% for Oy, Brau and Lao respectively). Our study identified a prevalence of malnutrition for all respondents, irrespective of ethnicity, that was higher than that reported among community-dwelling elderly (0-8%) in other studies (Guigoz, 2006). However, our results were similar to those reported for the prevalence of malnutrition in the hospitalised and institutionalised elderly (0-74%) (Guigoz, 2006). In addition, the prevalence of malnutrition in elderly from ethnic minorities was significantly higher than that of elderly from ethnic majorities ( $p < 0.01$ ). Findings also showed no significant difference in functional ability (IADL) between ethnic minorities and majorities ( $p > 0.05$ ). Unlike many studies that showed a relationship between functional capacity (ADL) and nutritional status, findings from this study showed no relationship between ADL and nutritional status. Factors like common diseases, food taboos, economic situation and lifestyle that predicted nutritional status varied by ethnicity and within ethnic minorities. Economic hardships were the strongest predictor of poor nutritional status among the Oy and Brau whereas common diseases were the strongest predictor among the Lao.

#### 「結論及び考察」

In conclusion, this study confirmed that children and elderly, especially those that belong to ethnic minorities are nutritionally vulnerable. From the modified framework for the causes of malnutrition, the basic causes of poor nutritional status among children from ethnic minorities include ethnicity, natural disasters, inadequate care resulting from part time employment and

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ignorance. On the other hand, the basic causes of poor nutritional status among the elderly include ethnicity, economic hardships, stress and reduced functional capacity. The diverse nature of vulnerable populations makes it inevitable for diverse channels to be used to improve nutritional status as well as enhance resilience during emergency times.