

# Food Insecurity in Thailand

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## Abstract

*This paper describes the country report for Thailand on food insecurity describing research conducted for GIZ by the SIU Research Centre at Shinawatra University, Thailand. The research involved collecting data from two hundred respondents using the Food and Agricultural Organization's (FAO) Food Insecurity Experience Index. The overall project involved four countries (Lao PDR, Myanmar and Vietnam in addition to Thailand). These four countries are involved in the East West Economic Corridor project. The research found that there were experiences of food insecurity in Thailand above the expected level and, at the more severe levels, above the average of all four countries overall. This form of food inexperience is prevalent both in urban and rural settings. Education is found to be the demographic characteristic most commonly linked with factors predicting the prevalence of food insecurity. A priority policy area for government should be to improve quality of and access to good quality education levels throughout the country. Most respondents are able to use education to improve their own standard of living in a rationally-governed country with good infrastructure and access to public and private sector resources. Although poverty in Thailand is widely considered to be primarily a rural phenomenon, this research indicated that migration, declining economy and vulnerability through age and disability have made poverty in urban settings more of a reality. Recommendations are drawn from the research and some policy implications are outlined.*

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## 1. Introduction

Thailand is the most economically developed country in mainland Southeast Asia and is one of the five founding members of the Association of South East Asian Nations (ASEAN). As the USA's longest standing Asian ally, Thailand profited greatly from the Second Indochinese war and subsequent suppression of the country's own Communist Party. This support strengthened the military and, in conjunction with the palace network, led to the anti-democracy authoritarianism demonstrated by the coups of 2006 and 2014. However, economic development has taken place, even in the poorer parts of the country in the north and northeast which are now quite strongly linked to international markets. Most farmers have moved beyond the subsistence stage of production and have become integrated into regional and international production systems. The influence of international retail multiples has been important here (Poupon, 2013).

	Population (millions)	GDP/capita (US\$)	Corruption (ranking)	Press Freedom (ranking)	Ease of Doing Business (ranking)	Food Insecurity
Lao PDR	7.0	5,300	139	173	134	3
Myanmar	56.9	5,500	147	143	167	1
Thailand	68.2	16,100	76	136	49	1
Vietnam	95.3	6,000	112	175	90	1

**Table 1: Indicative Statistics of Sample Countries; source: See Below**

Data sources:

Population: CIA World Factbook, various pages, available at: <https://www.cia.gov/library/publications/the-world-factbook/>.  
 GDP per capita (PPP): CIA World Factbook, various pages, available at: <https://www.cia.gov/library/publications/the-world-factbook/>.

Corruption: Transparency International, various pages, [www.transparency.org](http://www.transparency.org)

Press freedom: Reporters without Borders, 2016 world Press Freedom Index, <https://rsf.org/en/ranking>

Ease of doing business: World Bank, [www.doingbusiness.org/ranking](http://www.doingbusiness.org/ranking).

Food insecurity: FAO (2015). 1 = WFS Goal and MDG 1c target achieved; 3 = MDG 1c target achieved.

Most recent estimates or figures have been use in all cases.

Thailand's economy has almost moved beyond the Factory Asia Paradigm of development that focuses on import-substituting, export-oriented, intensive manufacturing with competitiveness based on low labour costs. The most recent democratically-elected administration of Pheu Thai<sup>1</sup> introduced a plan to move the country beyond the Middle Income Trap, which describes the situation in which the means used by a country to rise from low-income to middle-income status (i.e. the Factory Asia Paradigm) cannot be used to rise to high-income status but which is nevertheless not set aside. Pheu Thai raised the minimum wage by some 40% and encouraged low labour cost manufacturing companies to relocate to other mainland Southeast Asian countries while seeking to introduce higher value-adding activities at various special economic zones. Since 2014, these policies have been undermined and no social or economic progress has been made. Nevertheless, Thailand remains an important location for overseas investment, especially from Japan, whose

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<sup>1</sup> The Pheu Thai party and other democratically-elected administrations are associated with the Shinawatra family and, hence, Shinawatra University.

corporations have done a great deal to enable the Thai economy to develop many of its working people to improve the quality of their lives. When the 2011 floods forced a close-down of most of the Japanese-invested industrial facilities, there was a notable impact upon the global automotive sector and it was determined to be one of the world's most significant economic events of the year (World Bank, 2011).

Despite the economic development that has taken place in the country, there are still areas and provinces where national levels of inequality indicate that poverty exists. Many family households are vulnerable to sudden external shocks (e.g. drought, flooding, disease) and many struggle with historical indebtedness. Armed troops have in some cases forcibly prevented farmers from planting second crops.

Thailand achieved rapid economic growth in the second half of the twentieth century, with 7.5% annual growth rate between the boom years of 1986-1995, although it has been slowed by the Asian Financial Crisis of 1997, the Banking and Austerity crises of 2007-8 and the coups of 2006 and 2014. It is this level of economic growth that has been the principal means of helping to eradicate poverty. The World Bank (2016) comments:

“Gains along multiple dimensions of welfare have been impressive: more children are now getting more years of education, and virtually everyone is now covered by health insurance while other forms of social security have expanded.

Poverty has declined substantially over the last 30 years from 67% in 1986 to 11% in 2014 during periods of high growth and rising agricultural prices. However, poverty and inequality continue to pose significant challenges, with vulnerabilities as a result

of faltering economic growth, falling agricultural prices, and ongoing droughts. Poverty in Thailand is primarily a rural phenomenon. As of 2013, over 80 percent of the country's 7.3 million poor live in rural areas. Moreover, an additional 6.7 million were living within 20 percent above the national poverty line and remained vulnerable to falling back into poverty. Although inequality has declined over the past 30 years, the distribution in Thailand remains unequal compared with many countries in East Asia (World Bank, 2016).”

Until 2001, political parties stood for elections without coherent ideologies beyond representing patronage networks and promising largesse to regional supporters. Thai Rak Thai and its successors have changed the nature of politics in the country and it is no surprise that the majority of efforts to redistribute resources in the country have followed their electoral successes, prompting the current efforts by the establishment elites to try to cripple the ability of electoral politics to make any further meaningful progress in the country.

## **2. Methodology**

Understanding of food insecurity in its various dimensions has developed strongly thanks to the efforts of the FAO and other institutions, as well as individual researchers and research teams. The FAO has developed a questionnaire that parsimoniously establishes the vulnerability of individual respondents and their households in the four dimensions of food insecurity, as previously described. This questionnaire has been extensively tested and validated and has been adopted as the principal instrument for this project.

Each country research team leader was instructed to interpret the original questionnaire into the appropriate local majority language (i.e. Lao, Myanmar, Thai and Vietnamese) and to collect responses according to the following criteria:

- 100 questionnaires should be completed in locations inside EWEC;
- 100 questionnaires should be completed in locations outside EWEC;
- Of the questionnaires collected within EWEC, 50 should be in urban locations and 50 in rural locations;
- Of the questionnaires collected outside EWEC, 50 should be in urban locations and 50 in rural locations.

In addition to these principal criteria research teams were instructed to try to ensure heterogeneity within the sample with respect to the demographic variables of gender, age, education, access to land and income levels. The research teams did the best they could to try to meet these guidelines, although the results were not perfect (but were within the bounds of reasonable practice). Sample results and comparison between sample and population are included in the next section.

Fieldwork was conducted in June and July of 2016 and research teams then completed country level reports in conjunction with the principal researcher. It is not possible to be certain about non-response bias. Research in other projects (e.g. Zin, forthcoming) has suggested that some respondents (e.g. women with low levels of education) will be reluctant to participate in research because of lack of confidence and, throughout the region in rural areas, there is the issue of household members, particularly but not always men, having migrated to cities or overseas in search of better paid work. These issues are difficult to overcome the methodology

employed and the constraints of time and space imposed. Nevertheless, limitations to the research exist.

Previous research also demonstrates (e.g. Walsh, 2015) that some respondents will believe that an interviewer or research team will be representing official agencies with the ability to offer or withhold important services or resources and are likely, therefore, to adjust their attitudes and answers accordingly. Research teams in this project were encouraged to make it clear they were part of an academic research project and had no ability directly to affect their lives in the future. Even so, opinion polling in recent high profile elections in western countries has highlighted the gap between opinion and response that may or may not take place on a systematic basis.

As mentioned above, the state language was employed for interviewing and the research team leaders were fluent both in their own language and in English. However, it was not possible to deal with ethnic minority languages for potential respondents who might have been found in the research sites. Research teams were not instructed to seek out people who could not communicate in the national language or dialect and focused on locations where communications was more convenient.

The fieldwork took place before the monsoon season could interrupt transportation and communications and no intense harvesting operations were taking place. Notwithstanding human error, it is adjudged that data collection adhered to as rigorous an approach as might be reasonably expected.

Once collected, the questionnaires were checked and then the data entered into the PSPP statistical programme. PSPP is a free, open-source programme that emulates the widely-known but prohibitively expensive SPSS programme that is used in

many research projects, whether or not properly licensed. PSPP enabled the researchers to process and analyse the data in the same way that SPSS (or similar programmes) would but in the knowledge that no ethical standards were being compromised.

As described below, various statistical techniques were employed to try to achieve the research objectives outlined previously and to understand the responses given by respondents. Since the research instrument has been widely used and accepted, it was not considered necessary to try to establish validity or reliability through statistical means.

## 2.1. Sample and Population

Thailand has a population of 68.2 million, of whom 95.9% are ethnic Thais (i.e. speaking Thai language). The population's age profile compared to the sample is shown below:

Population Age Range	0-14	15-24	25-54	55-64	65+
(%)	17.2	14.5	46.5	11.6	10.2
Sample Age Range		19-30	31-59		60+
(%)		20.0	37.1		21.5

**Table 2:** *Comparison between Population and Sample Age Profiles; source: CIA World Factbook and Original Research*

The (more or less) random selection of respondents within the sample design has produced an age profile that is quite representative of the population. The gender profile obtained (male 52.5% and female 47.5%) is also reasonably representative. Secondary school participation is listed as net attendance ratio of 76.6% for males and 83.1% for females (2008-12) (Unicef, 2016), although this was lower in the past, when older respondents were of school age. In the sample, 44.5% of respondents had primary education or less and 55.5% had secondary school level education or higher.



### **3. Findings**

The Food Insecurity Index is built from the eight questions used in the questionnaire asking whether respondents had witnessed any of these components of potential food insecurity over the preceding twelve months:

Q1. You or others in your household worried about not having enough food to eat because of a lack of money or other resources?

Q2. Still thinking about the last 12 MONTHS, was there a time when you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources?

Q3. Was there a time when you or others in your household ate only a few kinds of foods because of a lack of money or other resources?

Q4. Was there a time when you or others in your household had to skip a meal because there was not enough money or other resources to get food?

Q5. Still thinking about the last 12 MONTHS, was there a time when you or others in your household ate less than you thought you should because of a lack of money or other resources?

Q6. Was there a time when your household ran out of food because of a lack of money or other resources?

Q7. Was there a time when you or others in your household were hungry but did not eat because there was not enough money or other resources for food?

Q8. Was there a time when you or others in your household went without eating for a whole day because of a lack of money or other resources?

These questions, which explore the various facets of food security described previously, appear in the tables below as B1-B8, respectively. The first table displays the breakdown of results in Thailand and compares them to the overall results for the four country study.

%age saying "yes"	B1	B2	B3	B4	B5	B6	B7	B8
Thailand	43.8	26.0	31.5	15.5	29.0	15.0	14.5	16.0
Overall	42.8	29.5	34.1	14.4	27.3	13.6	15.0	9.7
N	1057	1057	1057	1057	1057	1057	1057	1057
P	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*
	*	*	*	*	*	*	*	*

**Table 3: FIES Index by Country; source: Original Research**

It is noticeable that the results for Thailand are quite similar to those for the four country study overall. It might have been expected that, given the much higher levels of economic and social development in the country, that food insecurity experiences would be rather lower than they are. However, at the more severe levels on the right-hand side of the scale, prevalence of such an experience in Thailand is higher than the average. Indeed, it is quite shocking that nearly one in six households report experience of B8, which has a person going without food for a whole day because of lack of resources.

In addition to answering yes or no, respondents were also offered the opportunity to answer 'don't know' or 'refused to respond,' which is the method employed in previous usages of the FIES. It is thought that some respondents might be reluctant to give an answer if they feel it is too revealing or embarrassing an answer or for some other personal reason. The following table indicates the number of people taking advantage of these non-responses.

<b>%</b>	<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B4</b>	<b>B5</b>	<b>B6</b>	<b>B7</b>	<b>B8</b>
No	57.0	74.0	68.5	84.5	71.0	85.0	85.5	84.0
Yes	43.0	26.0	31.5	15.5	29.0	15.0	14.5	16.0
Don't Know	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0
N	200	200	200	200	200	200	200	200

**Table 4:** *FIES Index in Full*; **source:** *Original Research*

It is quite striking that no respondents refused to give an answer or did not know the answer to any of the questions. This is different from other countries and it suggests that people in the Thai survey had knowledge and confidence in understanding the world immediately around them so that they were willing to give answers to every question.

Next, the demographic characteristics collected during the survey are used in cross-tabulation with the food insecurity results reported on in this section to try to indicate which characteristics are more influential in determining those results.

### **3.1. EWEC and Food Insecurity**

The first demographic characteristic investigated is location of the household in relation to the EWEC. As previously mentioned, half of the sample was to be located within the EWEC area and the other half outside it. Examining the influence of EWEC location on food insecurity experience provides the following results:

%age saying "yes"	B1	B2	B3	B4	B5	B6	B7	B8
Thailand – inside	43.0	31.0	37.0	23.0	37.0	26.0	24.0	25.0
Outside	43.0	21.0	26.0	8.0	21.0	4.0	5.0	7.0
Overall	43.0	26.0	31.5	15.5	29.0	15.0	14.5	16.0
N	200	200	200	200	200	200	200	200
P	1.000	0.107	0.094	0.003**	0.013*	0.000**	0.000**	0.001**

**Table 5:** *FIES Index by EWEC and Country; source: Original Research*

It is evident that EWEC membership is not influential for the less severe insecurity factors (i.e. B1-3) but does explain quite well the remaining, more severe factors (i.e. B4-8), in all of which there are statistically significant results and, in four of those cases, highly statistically significant results. In each of these cases, the prevalence of food insecurity is higher inside the corridor than without, which indicates that the EWEC has not yet had enough time to bring about the positive benefits anticipated of it. At least it indicates that at least some of those located inside the corridor definitely need economic assistance.

### 3.2. Gender

The next characteristic to be considered is gender. Respondents were classified as either male or female. The influence of this characteristic on the prevalence of food insecurity is shown in the table below.

%age	B1 -	B1 -	B2 -	B2 -	B3 -	B3 -	B4 -	B4 -
	Male	Female	Male	Female	Male	Female	Male	Female
No	60.0	53.7	73.3	74.7	70.5	66.3	84.8	84.2
Yes	40.0	46.3	26.7	35.3	29.5	33.7	15.2	15.8
Don't Know	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0
N	105	95	105	95	105	95	105	95
P		0.368		0.821		0.527		0.914

%age	B5 - Male	B5 - Female	B6 - Male	B6 - Female	B7 - Male	B7 - Female	B8 - Male	B8 - Female
No	69.5	72.6	86.3	86.3	83.8	87.4	85.7	82.1
Yes	30.5	27.4	13.7	13.7	16.2	12.6	14.3	17.9
Don't Know	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0
N	105	95	105	95	105	95	105	95
P		0.629		0.620		0.475		0.487

**Table 6:** *Gender and the FIES Insecurity Index;* **source:** *Original Research*

It is clear from these results that gender does not appear to be an influential factor in explaining variations in food insecurity experiences because there are no statistically significant distributions here. There is a tendency for more women than men to have observed food insecurity effects at the less severe left-hand end of the scale and it is possible that this results from women’s traditional roles in food production and preparation. However, this tendency disappears on the right-hand side of the scale.

### 3.3. Age

Respondents were divided into the three age groups, which were 19-30, 31-59 ad 60+. The impact of this factor on the food insecurity experience is as follows.

%age	B1 - 19-30	B1 - 31-50	B1 - 60+	B2 - 19-30	B2 - 31-59	B2 - 60+	B3 - 19-30	B3 - 31-59	B3 - 60+	B4 - 19-30	B4 - 31-59	B4 - 60+
No	72.5	49.6	62.8	67.5	77.8	69.8	75.0	68.4	62.8	87.5	87.2	74.4
Yes	27.5	50.4	37.2	32.5	22.2	30.2	25.0	31.6	37.2	12.5	12.8	25.6
Don't Know	0	0	0	0	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0	0	0	0	0
N	40	117	43	40	117	43	40	117	43	40	117	43
P		0.028*			0.342			0.488			0.119	

%age	B5 – 19- 30	B5 – 31-59	B5 – 60+	B6 – 19- 30	B6 – 31-59	B6 – 60+	B7 – 19- 30	B7 – 31-59	B7 – 60+	B8 – 19- 30	B8 – 31-59	B8 – 60+
No	70.0	75.2	60.5	90.0	85.5	79.1	92.5	87.2	74.4	87.5	85.5	76.7
Yes	30.0	24.8	39.5	10.0	14.5	20.9	7.5	12.8	25.6	12.5	14.5	23.3
Don't Know	0	0	0	0	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0	0	0	0	0
N	40	117	43	40	117	43	40	117	43	40	117	43
P		0.118			0.370			0.047*			0.327	

**Table 7: Age and the FIES Insecurity Index; source: Original Research**

Only in two cases is there a statistically significant distribution of results with respect to age group and neither of these is highly statistically significant. Consequently, age is not considered to be a very powerful means of predicting experiences of food insecurity in this case. There is a tendency for older respondents to report more instances of food insecurity than younger respondents, which perhaps is related to greater experience of the world or more poverty among older households. However, it is not possible to be certain about this from these results.

### 3.4. Education

Respondents were next categorized into two groups with respect to education. The first group contained those with no more than primary levels of education and the second group had secondary or higher levels of education. The results are displayed below.

%age	B1 – Primary	B1 – Secondary	B2 – Primary	B2 – Secondary	B3 – Primary	B3 – Secondary	B4 – Primary	B4 – Secondary
No	49.4	63.1	67.4	79.3	58.4	76.6	76.4	91.0
Yes	50.6	36.9	32.6	20.7	41.6	23.4	23/6	9.0
Don't Know	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0
N	89	111	89	111	89	111	89	111
P		0.053		0.057		0.006**		0.005**

%age	B5		B6		B7		B8	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
No	61.8	78.4	77.5	91.0	77.5	91.9	75.3	91.0
Yes	38.2	21.6	22.5	9.0	22.5	8.1	24.7	9.0
Don't Know	0	0	0	00	0	0	0	0
Refused	0	0	0	0	0	0	0	0
N	89	111	89	111	89	111	89	111
P		0.010*		0.008**		0.004**		0.003**

**Table 8:** *Gender and the FIES Insecurity Index;* **source:** *Original Research*

It seems from these results that the level of education that a respondent has received is an important means of predicting experiences of food insecurity. That is because six factors have shown statistically significant distributions and, of those, five are highly statistically significant. In each case, it is apparent that people with the lower level of education have experienced more food insecurity than in the other category. Indeed, for factor eight, which is the most severe form of food insecurity, nearly one quarter of those respondents report this experience. There is a tendency for this to take place at the lower levels of the scale too but not to the extent of statistical significance.

Of course, lower levels of education tend to be positively correlated with lower levels of income, a rural setting and other factors. Consequently, it may be that the education factor is not individually as influential a factor as it appears here. Further evaluation of this is conducted in the logistic regression section below.

### 3.5. Setting

Respondents were next classified according to whether they lived in a rural or an urban location. The research team leader determined the research sites and managed the sample according to the design previously discussed.

%age	B1 - Urban	B1 - Rural	B2 - Urban	B2 - Rural	B3 - Urban	B3 - Rural	B4 - Urban	B4 - Rural
No	64.0	50.0	76.0	72.0	75.0	62.0	86.0	83.0
Yes	36.0	50.0	24.0	28.0	25.0	38.0	14.0	17.0
Don't Know	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0
N	100	100	100	100	100	100	100	100
P		0.046*		0.519		0.048*		0.558

%age	B5 - Urban	B5 - Rural	B6 - Urban	B6 - Rural	B7 - Urban	B7 - Rural	B8 - Urban	B8 - Rural
No	69.0	73.0	85.0	85.0	84.0	87.0	82.0	86.0
Yes	31.0	27.0	15.0	15.0	16.0	13.0	18.0	14.0
Don't Know	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0
N	100	100	100	100	100	100	100	100
P		0.533		1.000		0.547		0.440

**Table 9:** *Setting and the FIES Insecurity Index; source: Original Research*

The setting variable does not seem to be very influential in predicting food insecurity experiences in this case since only two factors show and statistically significant result and neither of these is highly statistically significant. In general, there is more food insecurity at the lower ends of the scale in rural settings but this tendency disappears at the more severe levels. As noted above, much of Thailand's rural economy has become quite well-developed (although there are always threats of negative environmental shocks and reverses in agricultural commodity prices) and this means that rural poverty has declined to the extent that urban poverty is of approximately equal importance.

### 3.6. Land Access

Respondents were next asked about their access to land. There were two categories: hindered and unhindered and respondents were asked to provide their own answer to the question. The impact of this land access on the experience of food insecurity is shown below.



%age	B1 - Unhindere d	B1 - Hindere d	B2 - Unhindere d	B2 - Hindere d	B3 - Unhindere d	B3 - Hindere d	B4 - Unhindere d	B4 - Hindere d
No	56.9	57.2	75.9	71.4	70.7	65.5	86.2	82.1
Yes	43.1	42.9	24.1	28.6	29.3	34.5	13.8	17.9
Don't Know	0	0	0	0	0	0	0	0
Refuse d	0	0	0	0	0	0	0	0
N	116	84	116	84	116	84	116	84
P		0.972		0.480		0.433		0.433

%age	B5 - Unhindere d	B5 - Hindere d	B6 - Unhindere d	B6 - Hindere d	B7 - Unhindere d	B7 - Hindere d	B8 - Unhindere d	B8 - Hindere d
No	71.6	70.2	84.5	85.7	84.5	86.9	83.6	84.5
Yes	28.5	29.8	15.5	14.3	15.5	13.1	16.4	15.5
Don't Know	0	0	0	0	0	0	0	0
Refuse d	0	0	0	0	0	0	0	0
N	116	84	116	84	116	84	116	84
P		0.840		0.810		0.631		0.863

**Table 10:** *Land Access and the FIES Insecurity Index; source: Original Research*

It is evident from these results that land access does not have a very strong ability to predict experience of food insecurity in this survey. This is evident from the fact that there are no statistically significant distributions in the results. There is a slight tendency for respondents with hindered access to land to report higher levels of food insecurity on the less severe left hand side of the scale but the differences are really quite small. Land access in Thailand is much improved in recent years and certainly in comparison with other countries included in this study.

### 3.7. Income Level

Income is dealt with differently than other variables because the exact amount (measured in the equivalent of US\$ per month) varies so much from country to country (see Table 1 for GDP per capita figures). To introduce comparability, respondents are divided into three categories, broadly defined as low, middle and high incomes, as shown in the table below.

Country	Lao PDR	Myanmar	Thailand	Vietnam
Low Income (n)	0-1,000 (204)	0-100 (160)	0-1,000 (149)	0-300 (37)
Medium Income (n)	1,001-3,000 (38)	101-200 (121)	1,001-2,000 (36)	301-600 (86)
High Income (n)	3,001+ (14)	201+ (19)	2,001+ (14)	601+ (77)

**Table 11:** *Income Level Categories;* **source:** *Original Research*

When these income levels are used to explore differences in experiences of food insecurity, the following results are produced.

%age	B1 -L	B1 -M	B1 -H	B2 -L	B2 -M	B2 -H	B3 -L	B3 -M	B3 -H	B4 -L	B4 -Me	B4 -H
No	54.7	63.9	61.5	69.3	86.1	92.3	64.0	77.8	92.3	82.7	88.9	92.3
Yes	45.3	36.1	38.5	30.7	13.9	7.7	36.0	22.2	7.7	17.3	11.1	7.7
Don't Know	0	0	0	0	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0	0	0	0	0
N	150	36	13	150	36	13	150	36	13	150	36	13
P		0.567			0.035*			0.044*			0.469	

%age	B5 -L	B5 -M	B5 -H	B6 -L	B6 -M	B6 -H	B7 -L	B7 -M	B7 -H	B8 -L	B8 -Me	B8 -H
No	67.3	77.8	92.3	81.3	97.2	92.3	82.0	94.4	100	80.0	94.4	100
Yes	32.7	22.2	7.7	18.7	2.8	7.7	18.0	5.6	0	20.0	5.6	0
Don't Know	0	0	0	0	0	0	0	0	0	0	0	0
Refused	0	0	0	0	0	0	0	0	0	0	0	0
N	150	36	13	150	36	13	150	36	13	150	36	13
P		0.099			0.042*			0.050*			0.028*	

**Table 12:** *Income Level and the FIES Insecurity Index;* **source:** *Original Research*

It is evident that there are five statistically significant results in this set of results, although no highly statistically significant results. Consequently, it appears that income level is a reasonably powerful means of predicting the experience of food insecurity. In general, as might be expected, the

tendency is for people with lower income levels to experience higher levels of food insecurity at all parts of the scale. Of course, it is possible that income levels are positively correlated with other factors and that this is adding a level of noise to the data. This is explored further below.

### **3.8. Logistic Regression Analysis**

It has been shown that several of the demographic characteristics about which information has been collected appear to be influential in predicting the levels of food insecurity experienced by respondents in different categories. This is shown by the presence of a number of statistically significant and highly statistically significant distributions being created that indicate results that are intuitive in nature: i.e., that lower levels of income and education and a rural location all indicate a greater propensity to have experienced food insecurity in the household as compared with having higher levels of income and education and an urban location.

It is possible that some demographic factors are positively correlated with each other and this is adding noise to the data. The table below displays the correlation matrix for this survey.

It is necessary to exercise some caution with these results because correlation testing and categorical data do not always mix well. However, it is clear that there is a series of statistically significant distributions in the results. The most notable of the results appears to be that education level is strongly statistically significantly correlated with all other variables apart from gender. As noted in the previous analysis, the correlations with education work in the intuitive direction. Some of the other variables have specific types of relationships with each other as the result of the survey research design. Setting and EWEC are, by design, entirely

uncorrelated, while income level and EWEC status are related through choices made by the research team. Further research is required, therefore, to determine the relative importance of the various demographic factors.

Pearson's R (Significance)	Gender	Age	Education	Setting	EWEC	Income Level	Land Access
Gender	*	0.02 (0.731)	-0.03 (0.625)	0.03 (0.673)	0.01 (0.888)	0.14 (0.043*)	0.00 (0.977)
Age	0.02 (0.731)	*	-0.46 (0.000**)	0.36 (0.000**)	-0.21 (0.000**)	-0.02 (0.762)	-0.35 (0.000**)
Education	-0.03 (0.625)	-0.46 (0.000**)	*	-0.27 (0.000**)	0.25 (0.000**)	0.16 (0.022*)	0.21 (0.003**)
Setting	0.03 (0.673)	0.36 (0.000**)	-0.27 (0.000**)	*	0.00 (1.000)	-0.07 (0.356)	-0.20 (0.004**)
EWEC	0.01 (0.888)	-0.21 (0.003**)	0.25 (0.000**)	0.00 (1.000)	*	0.19 (0.009**)	0.36 (0.000**)
Income Level	0.14 (0.043*)	-0.02 (0.762)	0.16 (0.022*)	-0.07 (0.356)	0.19 (0.009**)	*	0.00 (0.967)
Land Access	0.00 (0.977)	-0.35 (0.000**)	0.21 (0.003**)	-0.20 (0.004**)	0.36 (0.000**)	0.00 (0.967)	*

**Table 13:** Correlation Matrix of Demographic Variables; source: Original Research

To try to get a better understanding of which demographic factors are more influential in determining the experience of food insecurity, logistic regression is used. This approach requires a dichotomous dependent variable (B1-8) which means sample size is reduced by those cases which provided ‘don’t know’ or ‘refused’ answers – in this case, there were no such cases and one case with a missing variable and, hence, n = 199. In the table that follows, the test statistic (B) is provided, together with its significance level and exponentiated version of B, which provides a measure of influence which is more intuitively accessible. Finally, the overall percentage figure is provided for each test. There are several methods of estimating the accuracy (i.e. goodness-of-fit) of the logistic regression method. The classification method is selected here, since it is intuitively understandable. The figure gives the percentage of observations correctly predicted by the model. Consequently, the higher the number (to a maximum of 100), the more accurate is the model.

%age	B1	B1 –	B1 –	B2	B2 –	B2 –	B3	B3 –	B3 –
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	<b>- B</b>	<b>Sig</b>	<b>Exp(B)</b>	<b>- B</b>	<b>Sig</b>	<b>Exp(B)</b>	<b>- B</b>	<b>Sig</b>	<b>Exp(B)</b>
Gender	0.24	0.411	1.28	-	0.920	0.97	0.21	0.514	1.24
Age	-	0.781	0.93	-	0.332	0.73	0.01	0.966	1.01
Education	-	0.144	0.61	-	0.124	0.55	-	0.093	0.54
Setting	0.51	0.112	1.66	0.28	0.446	1.32	0.60	0.090	1.82
EWEC	0.08	0.811	1.08	-	0.145	0.57	-	0.122	0.56
Income Level	-	0.488	0.83	-	0.063	0.48	-	0.069	0.53
Land Access	0.18	0.732	1.12	0.73	0.48	1.62	0.71	0.061	2.03
Constant	-	0.677	0.60	1.16	0.413	3.19	-	0.737	0.63
	0.51						0.46		
Overall %age		60.30			72.86			70.85	

%age	<b>B4 - B</b>	<b>B4 - Sig</b>	<b>B4 - Exp(B)</b>	<b>B5 - B</b>	<b>B5 - Sig</b>	<b>B5 - Exp(B)</b>	<b>B6 - B</b>	<b>B6 - Sig</b>	<b>B6 - Exp(B)</b>
Gender	-	0.920	0.96	-	0.699	0.88	-	0.621	0.81
Age	0.04	0.466	1.33	0.11	0.733	1.11	0.12	0.763	1.13
Education	-	0.077	0.41	-	0.058	0.48	-	0.184	0.51
Setting	0.89	0.677	1.21	-	0.318	0.70	0.04	0.938	1.04
EWEC	-	0.004	0.23	-	0.063	0.50	-	0.000	0.11
Income Level	1.48	0.848	0.92	-	0.173	0.63	-	0.233	0.50
Land Access	0.08	0.013	3.42	0.47	0.233	1.57	0.87	0.087	2.39
Constant	-	0.637	0.44	1.68	0.223	5.35	1.86	0.312	6.42
	0.83								
Overall %age		83.92			71.86			85.43	

%age	<b>B7</b>	<b>B7</b>	<b>B7</b>	<b>B8</b>	<b>B8</b>	<b>B8</b>
	<b>B</b>	<b>Sig</b>	<b>Exp(B)</b>	<b>B</b>	<b>Sig</b>	<b>Exp(B)</b>
Gender	-0.25	0.580	0.78	0.42	0.314	1.53
Age	0.66	0.116	1.93	0.16	0.682	1.18
Education	-0.63	0.223	0.53	-0.95	0.057	0.39
Setting	-0.52	0.277	0.59	-0.57	0.210	0.57
EWEC	-1.59	0.006	0.20	-1.30	0.013	0.27
Income Level	-1.13	0.115	0.32	-1.31	0.068	0.27
Land Access	0.64	0.214	1.89	0.53	0.271	1.70
Constant	1.47	0.439	4.33	2.17	0.234	8.78
Overall %age		86.43			83.92	

**Table 14:** *Logistic Regression Testing of Demographic Characteristics and the FIES Insecurity Index; source: Original Research*

The first thing to note is that the level of confidence in the accuracy of the regression models proposed by the analysis varies. Factors B1-3 and B5 are all somewhat lower than the levels for the other factors. Overall, the level of confidence that can be placed in the results is reasonably high. Second, those factors where the constant is high (notably B2 and B5-8) suggest that there are other factors that are influential in the results which have not been captured by the demographic characteristics examined. Among the demographic variables, the most influential appear to be land access, followed by setting and age. Despite education having been found to be statistically significantly correlated with all other demographic variables (apart from gender), it is notable that it does not appear to be as influential as might have been expected. It might be, therefore, that although education is important in shaping life chances (i.e. food insecurity and other aspects of life), it is the other aspects of personal circumstances that in fact determine whether these chances are encountered or not.

### **3.9. Research Information from inside the East West Economic Corridor (EWEC)**

Khon Kaen Province is located in the northeastern part of Thailand also known as Isaan, where the highway from Bangkok built during the anti-Communist suppression period ends. It is ranked as the sixth biggest city in the Isaan region in terms of size and third biggest in terms of population. Khon Kaen University (the first public university and the largest educational centre in central Isaan) was established in 1966. Although it seems that Khon Kaen is one of the blooming provinces where economy, education, infrastructure, facilities and development are flourishing, from the field research it has been discovered that many of the people who live in Khon Kaen are still very poor and they need to receive the help from government resulting from their cost of living and limited career opportunities.

In both areas of Khon Kaen, the rural setting and the urban setting, from the interview survey it was discovered that even though respondents' houses are placed in different locations (rural and urban), nevertheless they are all faced with the same hardships in living their lives to the same extents. Some of Khon Kaen urbanists are homeless and face disabilities. They used the public park as their houses and would wait for someone to hire them each day. If they do not have anyone to hire them for work on that day, they could survive by having food from donations, digging from garbage bins or asking for charity from food shops. One man, 60, is a tricycle driver. He has no family and house and during the night time he just parks his tricycle along the footpath and sleeps on it. In the event that he has not got any money or food, he will ride his tricycle to the market and ask for some food from his sister; otherwise, the food shop owners nearby his area might provide some food for him.

While I was interviewing this man, another man with one leg had come to me asking for money. He is also a homeless person who is living his life through food donors or getting food from the public trash. He has no family and just wanders from place to place and sits and rests anywhere convenient. I did encourage him to ask for help from the government because of his disability and he told me that the government official kept telling him to submit the documents and do a lot of things without any progress. This continued until he became disheartened and it seemed like it was the most difficult thing in the world to accomplish. Both of these two men live in downtown Khon Kaen. This was definitely a surprise to me. How come they had to live their lives in the big city like this?

Meanwhile, the people in rural area of Khon Kaen told me that their lives in the past three years had been very difficult. There has been no or very little rainfall for many years. There has been a drought and they could not do rice farming in the way they wanted (since Thai farmers favour wet paddy rice production). Then they had no money and no food. They were extremely worried about their lives. Many villagers live on the monthly subsidiary fund for the elder people. In one household, two sisters have been living together with each other. Neither of them had got married and the elders received 700 baht per month because she is over 70 years, while the younger sister gets only 600 baht monthly because she over 60 years of age. With the limited amount of money that they earn each month, it is not enough for them some times, so they have a small area for vegetable plantation and live their lives by growing some vegetables from that place. On rare occasions, their youngest brother, a retired government officer, who lives in another place with his family, will send some money to them.



Most of the villagers complain about the food scarcity with which they confronted these days. Even the woman who is the chief of the village does not have enough money to survive every month. The way that she solves her problems is that every day she goes and visits her villagers to have food with them. Other people also go to the temple every day as well to get the leftover food from the Buddhist monks (who receive food during their morning perambulations and there may be more than they need). It is because of this that they can survive each day. This is the way of Thai society these days, particularly in the countryside, illustrating how Thai people live in an environment of compassion and sympathy. The ones who have more money and more food give out to the needy and they are willing to offer charity to their neighbours, local community members and the general public.

Moreover, some respondents said that, if they have no money, they will strive to get something to eat by allocating their resources for food according to their own health and that of every family member. That was why most of interviewees mentioned that they are so worried about their food, money, economy and the future but that, anyway, their family must have food to eat certainly.

From my study, I discovered that only business owners and government officials do not have any problem or need to worry about food insecurity experiences. Unsurprisingly, these people have a certain level of revenue every month. In this situation, they can still live the same way that they do. They have no need to worry and nothing can affect their everyday life other than having to keep in mind wise money usage.

### **3.10. Research Information from outside the EWEC**

Pathum Thani is the northern province bordering Bangkok and so it is in the vicinity or outskirts of Bangkok. From the research, I have found out that many interviewees moved from other provinces to live in Pathum Thani, according to their personal reasons such as for their children's education, for higher income, etc. As it happens, all of them have been living in Pathum Thani for more than three years but mostly over ten years.

In this study, I do not think that the findings in Pathum Thani would have such big differences between the city and rural areas because of their way of life, living style and income which I expected would show almost the same pattern. The most surprising thing to me is that one man who owns a construction business said that his business has become worse. He has seven subordinates and he has got no new projects since the beginning of the year. Consequently, he has changed his career from construction to selling rice at a government office. He has tried every approach to earn some money to feed his employees every day no matter how hard it is. He is very worried and has never had this kind of experience before. Anyway, he said he has to go through it absolutely and has no other choice.

On land ownership, some respondents have their own houses but mostly they rent houses in Pathum Thani and keep their own property in their hometown in the countryside such as houses, pieces of land and paddy rice fields. Also, they can earn some money from renting the house or by rice farming. In some cases, they live with their parents or have a government residence and, hence, they do not have their own houses.

In conclusion, most of the participants complained that the economy has been slowing down for the past few years and they are concerned about what is going to happen and how they will survive in the future.

#### **4. Recommendations**

The following recommendations are suggested, based on the research described above:

- Food insecurity exists in Thailand at higher than expected levels in both urban and rural settings. This situation does not appear to be necessary, especially in the urban locations (when some rural areas are in unfavoured areas) of a country which is a major exporter of fresh and processed agricultural products. Although there are charitable and religious institutions that would seem to exist that would assist in this case, it is evident that there are people not being catered for by those institutions. There is a need for more investigation at the local level to identify why these forms of systems failures exists and how they can be rectified;
- Education, specifically lower levels of education, seems to be linked to all the factors that suggest heightened risk of food insecurity experiences. Improving both the quality of education and access to it would improve opportunities for people to avoid food insecurity by enabling them to improve the quality of their lives;
- Market development (that is, demonstrating and convincing local consumers of the value of previously unknown products and explaining how to use them) is of great importance in helping local producers, particularly in the agricultural sector, to engage with regional and international markets on a more or less

equitable basis. Where market development has taken place, as for example in Vietnam in the case of Vinamilk (Walsh, 2012), producers can diversify the marketing and distribution of their production to include both local and international consumers only when local consumers understand and value the products involved can this diversification take place and there is a role for both public and private sector organizations to promote this development for their own ends. Government agencies can do this at very low cost by making announcements in regularly scheduled media announcements and, with some additional cost, by encouraging popular mass media content providers to use product or category placement;

- More research is, as ever, required to determine the extent to which these results extend across other parts of the countries involved and what other variations exist with respect to demographic characteristics. It has been shown that statistically significant distributions exist with respect to demographic characteristics. It has also been shown that statistically significant distributions exist with respect to demographic characteristics and some interpretation has been provided but additional research might help to determine the validity of such interpretations.

## **5. Conclusion**

This paper describes research that has been conducted by the SIU Research Centre of Shinawatra University for GIZ to explore food insecurity experiences in four countries of the Mekong region through which the East West Economic Corridor (EWEC) passes. This is the country report for

Thailand. A total of 200 questionnaires were collected for this project, according to a research design that ensured that sub-samples were obtained for both urban and rural settings both within the EWEC area and outside it.

The rate of reporting food insecurity in Thailand was higher than expected, given the economic development in that country vis-à-vis its three neighbours and this level of experience was time for both the less severe and more severe elements of the scale. As many as 16% of respondents reported experiences of household members going without food for a whole day within the past 12 months and this is higher than the overall average. There is scope to improve food insecurity situations in both urban and rural settings.

Currently, locations within the EWEC tend to show higher levels of food insecurity than those outside it. In part, this is a result of the agreed research sample design but it also shows some areas within the corridor do need additional assistance to help to improve their standards of living.

As ever, more research in future years would be helpful in understanding the nature of change with respect to the research issues.

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