NUTRIENT CONSUMPTION AND POVERTY IN MONGOLIA

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Abstract

Using data from the Household Socio-Economic Survey 2007-08, this study investigates the relationship between nutrient consumption and poverty in Mongolia. The nutrient consumption, I use here, is defined in terms of energy (calorie) and other macro nutrients such as fat, protein and carbohydrates.

The results show that the difference between nutrient consumption between the poor and for the non-poor was quite large and statistically significant. The adequacy ratio, one of food security indicators, reveals that poor households are below the benchmark level of all nutrients except animal fat. And it can imply that deficiencies in nutrients are a problematic issue only for poor households while all the population is facing a problem with excess of appropriate intake for animal fat. The findings of the study also suggest that serious attention is needed to diversify the food diet of the poor.

To conclude, the best way to fight the food security problem in the country could be the combination of policies that increase household incomes and that provide information on how to obtain a balanced and healthy diet.

KEY WORDS: HSES, Nutrient consumption, energy, fat, protein, carbohydrates, adequacy ratio

INTRODUCTION

Nutrient and calorie consumption can play a significant role in the definition of welfare concepts such as health and labor productivity[21]. Economic analysis of nutrient consumption might offer invaluable input in the design of better development policies.

There is an intimate connection between poverty and malnutrition, especially in developing countries. It is difficult for individuals who are poor to acquire adequate levels of food and thus of nutrient consumption for themselves and their families (Development economics, Debraj Ray).

The percentage of the population that is poor in Mongolia has been around 35 per cent in the last decade and the analysis of the determinants of poverty and its relationship to food security and nutritional outcomes have become an important issue and area of research. Moreover, the relationship of nutrient consumption and poverty in Mongolia has not been investigated even though the Living Standard Measurement Surveys and National Nutrition Surveys have been separately conducted.

In 2009, the government of Mongolia announced the National Food Security Program. The initial task of the program is to describe the pattern of food consumption and food security indicators in order to implement policies successfully.

Keeping in mind these motivations, the principal aim of this study is to assess the current nutritional status of population (or the food security aspect) and its relationship with poverty in Mongolia. This paper will examine the food security indicators and nutrient consumption patterns of the population by poverty status.

The first step will be the analysis of food security in Mongolia as well as nutrient consumption using well-accepted indicators of food security. Given that poverty and

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[21] See Stigliz (1976) for a detailed discussion of the efficiency wage hypothesis, which provides the theoretical framework for understanding the link between productivity and calorie intake.

malnutrition may be ordinally related (Development economics, Debraj Ray), I study also the nutrient consumption by poverty status. Moreover, I will estimate an indicator of fist goal of Millennium Development Goal (MDG), which is the proportion of undernourished people.

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Nutrient consumption is one of measure of food security issues. A common acceptable definition of food security exists. Yet, the concept of food security is understood and used differently depending on the context, timeframe and geographical region in question. "Food security" is a flexible concept and is usually applied at three levels of aggregation: national, regional and household or individual. At the 1996 World Food Summit, food security was defined as follows: "Food security exists when all people, at all times, have physical, social and economic access to sufficient food which meets their dietary needs and food preferences for an active and healthy life" (FAO, 1996). This definition is well accepted and widely used (Food security, Poverty and Nutrition Policy Analysis. Suresh Babu, Prabuddha Sanyal).
The three core determinants of food security are: 1) food availability, 2) food access and 3) food utilization.

Food availability: Information on food availability usually comes from national, regional and subregional food balance sheets. However this indicator doesn't provide information on food security at the household level.

Food access: Household food access is measured through food or nutrient intake at the household level. This is usually reported in "adult equivalent" units to facilitate comparison among individuals within a household as well as among households. The adult equivalent unit is a system of weighting household members according to the calorie requirements for different age and sex groups.

Food utilization: Food intake data, following

conversion to nutrient composition, are evaluated by comparing them with recommended.

In this study indicators of food access and food utilization are examined to illustrate the pattern of nutrient consumption in Mongolia.

The state of food insecurity in the World 2010. Food and Agriculture Organization (FAO) concludes that the number of undernourished people[22] in the World remains unacceptably high at near the one billon mark despite an expected decline in 2010 for the first time since 1995. This decline is largely attributable to increased economic growth foreseen in 2010-particularly in developing countries-and the fall in international food prices since 2008. The recent increase in food price, if it persists, will create additional obstacles in the fight to further reduce hunger. However, a total of 925 million people are still estimated to be undernourished in 2010, representing almost 16 per cent of the population of developing countries. The fact that nearly a billion people remain hungry even after the recent food and financial crises have largely passed indicates a deeper structural problem that gravely threatens the ability to achieve internationally agreed goals on hunger reduction: the first Millennium Development Goal and the 1996 World Food Summit goal.

National children and woman nutrition survey of Mongolia (2004) reports that 19.6 per cent of all Mongolian children 6-59 months old suffered from chronic malnutrion[23] or stunting and 6.7 per cent were underweight. In total, 4.2 per cent of mothers of 6-59 month old children are malnourished. Of note is the finding that almost 30 per cent are overweight.

The survey on "Food security and livelihoods in the small urban centers of Mongolia (2008)" was conducted covering 4 aimag centers-prefecture centers of the country. The results of this assessment provide, for the first time, empirical evidence of food insecurity among aimag center residents in Mongolia

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[22] Undernourishment exists when calorie intake is below the minimum dietary energy requirement (MDER)
[23] Body Mass Index approach were used.

even though not statistically representative of Mongolia as a whole. The most pressing issues relate to the access dimension of food security. Based on the Household Food Insecurity Access Scale, on third of households in the survey population were found to be food insecure. Data from the Household Dietary Diversity Score indicator, another measure of access, found that 11 per cent of households reported eating four or fewer of food in the past 24 hours. In addition, information collected on seasonal patterns of food security suggests that situation worsens considerably during the spring months when both food and employment are scarce.

DATA AND SAMPLING

Data collection

The data used for this study is obtained from a comprehensive survey of households in Mongolia, called as Household Socio- Economic Survey, 2007-08 (HSES 2007-08). The HSES 2007-08 is a nationally representative survey, whose main objectives are to evaluate and monitor the income and expenditure of households and to define a poverty profile of the country. The HSES is a permanent survey carried out by the National Statistical Office (NSO) of Mongolia and for this study 12 months of fieldwork is used, that is, from July 2007 to June 2008. The HSES was conceived as an improved version of the Household Income and Expenditure Survey (HIES) because several modules from a typical Living Standards Measurement Survey were merged to the HIES which was conducted since 1966. It contains 16 major modules: basic socio-economic information about the members of the household, education, health, reproductive health, migration, employment, wage jobs, job search, agriculture and herding, non-farm family businesses, other income, savings and loans, housing and energy, durable goods, non-food expenditures and food consumption.

Food consumption data that consumed by household members was collected at the household level with the Classification of individual consumption by purpose (COICOP) and covering 122 items, organized in 13 categories: flour and flour products; meat and meat products; fish and seafood; milk, cheese and eggs; oils and fat; fruits; vegetables; sugar and jam; other food; tea and coffee; mineral water and soft drinks; alcoholic beverages; and tobacco and cigarettes. The method to collect these data and the reference period vary across urban and rural areas. In the capital and in prefecture centers, information is captured through a diary, which is compiled by an enumerator every ten days, three times during a month. In other words, the reference period is one month. In village centers and in the countryside, a recall period for the last week is employed. Moreover, all possible sources of food consumption are included. This means that the food information comprises not only consumption on purchases in the market or on meals eaten away from home but also food that was own produced or received as a gift.

As in the case of food, data on an expensive range of non food items are available, 371 items arranged in 38 different groups such as clothing and footwear for men, women and children, jewelry and souvenirs, clothing materials, education, health recreation, beauty and toilet articles and services, cultural expenses, household goods, durable goods, housing expenditures, transportation, communication, insurance and taxes with COICOP classification. The HSES does not gather information on quantities consumed because most non food items are too heterogeneous to try to calculate unit values.

Variables and their measurements

The analysis reported here are used two main variables such as *per capita nutrient consumption,* and *per capita consumption.*[24] The latter variable is estimated to proxy for household welfare which is used to determine poor household.

Per capita nutrient consumption:

Food consumption collects on the quantity consumed (including from own production and free meal) at the household level. Skoufias (2009) supports that since consumption of nutrients determined by what foods and how

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[24] Distribution of consumption is in Table A.1 in the Appendix

much of those foods are consumed, good estimates of the demand system parameters for food can be used, by applying food-to-nutrient conversion factors (as sited in Pitt, 1983; Strauss, 1984). I use a food composition table compiled by the Ministry of Health of Mongolia in 2008 that contains information on the nutrient content per 100 grams of all the major food items in Mongolia to convert the quantity consumed of each of the hundred food items by each household into its equivalent content of calories, protein, fat and carbohydrates. Tobacco and residual categories are excluded from this calculation. It means household nutrient intake *HNUT* is computed through the formula:

$$HNUTi = \sum_{j=1}^{n} FijNj$$

Where:*Fij* is the weight in 100 grams of the average daily intake of food item j by household i.
jN is the standard measure of nutrient found in each type of food item *jF*.
A total number of food items is n=100.

Then per capita nutrient consumption is estimated converting household nutrient consumption to per capita using equivalent adult ratio.

$$NUTi = \frac{HNUTi}{ADEi}$$

Finally, calorie of meals eaten outside the household is added to this calculation in order to estimate total calorie income at household level. For that I use average price of calorie at household level and average expenditure of meals eaten outside.

Per capita consumption:
        Creating consumption aggregate is guided by theoretical and practical considerations. First, it must be as comprehensive as possible given the available information. Omitting some components assumes that they do not contribute to people's welfare or that they do no affect the rankings

of individuals. Second, market and non-market transactions are to be included, which means that purchases are not the sole component of the indicator. Third, expenditure is not consumption. For perishable goods, mostly food, it is usual to assume that all purchases are consumed. But for other goods and services, such as housing or durable goods, corrections have to be made. Lastly, the consumption aggregate comprises five main components: food, non-food, housing, durable goods and energy.

As in the case of food, non-food consumption and energy consumption is a simple and straightforward calculation. Again, all possible sources of consumption is included[25] and normalized to a common reference period.

However, for those components as housing and durable goods there is more imputations were employed.

Durable goods: Ownership of durable goods could be an important component of the welfare of the households. Given that these goods last typically for many years, the expenditure on purchases is not the proper indicator to consider. The right measure to estimate, for consumption purposes, is the stream of services that households derive from all durable goods in their possession over the relevant reference period. This flow of utility is unobservable but it can be assumed to be proportional to the value of the good. A usual procedure involves calculating depreciation rates for each type of good based on their current value and age, which in this case is provided by the HSES along with the number of durables owned by the household. Shortly, the stream of consumption is computed by multiplying the estimated value of the good a year ago times its depreciation rate, and aggregating these amounts by household.

Housing: Housing conditions are considered an essential part of people's living standards.

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[25] Self produced and in-kind consumption is included.

Nonetheless, in most developing countries limited or nonexistent housing rental markets pose a difficult challenge for the estimation and inclusion of this component in the consumption aggregate. As in the case of durable goods, the objective is to try to measure the flow of services received by the household from occupying its dwelling. Finally, for the consumption aggregate, the estimated imputed rents derived from the self-reported or imputed property values were used as estimates for the flow of services from housing, except when actual rents were available.

Mongolia shows remarkable seasonal and spatial price differences, especially for food items. Therefore, in order to properly measure living standards, expenditure values need to be corrected for such differences using price indices. The household survey provides information on budget shares for all items but information on average prices paid by the household only for food items. A Paasche price index at the cluster level was constructed combining information from the HSES and the national consumer price index. Clusters are comprised by 10 households in urban areas and 8 households in rural areas. Households within a cluster are likely to face similar prices and have similar consumption patterns. The Paasche price index for the primary sampling unit i is obtained with the following formula:

$$p_i^{\,P} = \left[\sum_{k=1}^{n} w_k \left(\frac{p_k}{p_{0k}} \right)^{-1} \right]^{-1}$$

where k is one of the n goods considered for the index,
w_{ik} is the budget share of good k in the primary sampling unit i,
p_{ik} is the median price of good k in the primary sampling unit i, and
p_{0k} is the national median price of good k.

Overall, the final price index considers both food and non-food items for the temporal and spatial adjustment.

The final step in constructing consumption for the welfare indicator involves going from a measure of standard of living defined at the household level to another at the individual level. Consumption data are collected typically at the household level (usual exceptions are health and education expenses), so computing an individual welfare measure generally is done by adjusting total household consumption by the number of people in the household, and assigning that value to each household member. Common practice when doing this is to assume that all members share an equal fraction of household consumption. The final step in constructing consumption for the welfare indicator involves going from a measure of standard of living defined at the household level to another at the individual level. Consumption data are collected typically at the household level (usual exceptions are health and education expenses), so computing an individual welfare measure generally is done by adjusting total household consumption by the number of people in the household, and assigning that value to each household member. Common practice when doing this is to assume that all members share an equal fraction of household consumption.

Sampling design
The sampling frame of the HSES was developed by the NSO based on population figures for 2005 from local registration offices. The design of the survey recognizes three explicit strata: Ulaanbaatar-capital, aimag-prefecture centers, and rural areas and small towns/villages. The selection strategy was different in each stratum: a two-stage process in urban areas and a three-stage process in rural areas. All 1,248 primary sampling units or clusters were selected with probability proportional to size and were randomly allocated into the 12 months of survey fieldwork. Thus the survey visited a random sub-sample of 104 clusters each month. The 8 or 10 households were selected randomly from the cluster and total sample of 11232 households was also allocated into the 12 months.

In order to obtain representative statistics for each stratum and for the whole country with

using this sampling procedure[26], it is necessary to use sampling weights. These weights are applied to each household and correspond to the inverse of the probability of selection, calculated taking into account the sampling strategy. And the weights are used to describe the consumption pattern of the country in this study.

The actual sample used for this study is slightly lower.[27] The difference corresponds to 361 households that were excluded because of non completed information and outliers.

EMPIRICAL ANALYSIS AND RESULTS

As I mentioned early there are no statistics that can explain about the food security and its relationship to poverty in Mongolia. In order to shed some light on that issue I make a descriptive analysis of the food security indicators such as nutrient intake and adequacy ratio by certain group of the population.

Table 1 reports mean intake for energy/calorie and some macronutrients and it can provide general pattern about a household's ability to spend on food. Since my main purpose is to study whether nutrient consumption changes between poorer and richer households I present the statistic for poor and non poor households.

Table 1: **Per capita daily nutrient consumption, by poverty status**

	National	Non poor	Poor
Energy (kcal)	2406	2726	1822
Total energy (kcal)	2561	2950	1849
Animal protein (g)	58	68	39
Vegetable protein (g)	39	4	33
Animal fat (g)	61	73	40
Vegetable fat (g)	22	26	15
Carbohydrates (g)	317	349	259

To determinate poor population I use the methodology was employed in the poverty analysis of the country in 2009 with the same data.[28]   One remarkable finding is the difference between consumption for the poor and for the non poor that was statistically significant. The non poor households displays a calorie consumption that is 49.6 per cent bigger than the poor, a total energy that is 59.5 per cent bigger, an animal protein 73.6 per cent bigger, a vegetable protein that is 28.4 per cent bigger, an animal fat that is 79.9 per cent bigger, a vegetable fat that is 78.1 per cent bigger and a carbohydrates that is 34.5 per cent bigger that the poor households.

The nutrient intake by an area and a calendar quarter of the year is also estimated and presented in Table A.3 in the Appendix.

Another food security indicator, food utility, is that a comparison nutrient intake with recommended intake. Table 2 shows that adequacy ratio of mean intake (as in Table 1) to recommended and appropriate daily intake which is approved by Ministry of Health of Mongolia in 2009.

For the national average, nutrient deficiencies are recorded only vegetable fat and carbohydrates and excess of appropriate is animal fat. However, adequacy ratios are remarkably different by poverty status. The poor households are below the benchmark level of all nutrients except animal fat. Overall figures in Table 2 suggest that nutrient intake is a problematic issue only for poor households while all population is facing a problem with excess of appropriate intake for animal fat.

Table 2: **Adequacy ratio, by poverty status**

	National	Non poor	Poor
Energy (kcal)	96	109	73
Total energy (kcal)	102	118	74
Animal protein (g)	103	121	70
Vegetable protein (g)	103	112	87
Animal fat (g)	219	260	145
Vegetable fat (g)	53	63	35
Carbohydrates (g)	85	93	69

The adequacy ratio by the groups is also estimated and presented in Table A.4 in the Appendix.

Another interest of my study is to estimate an indicator of the goal 1 of the MDG that has been not estimated in Mongolia yet. For

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[26] The use of this sampling procedure means that households living in different areas of the country have been selected with different probabilities.
[27] A sample by stratum and month is in Table A.2 in the Appendix.
[28] For details on the methodology see, Poverty profile.
   NSO of Mongolia (2009)

a given calorie consumption level on the horizontal axis, the curve indicates on the vertical axis the percentage of the population with an equal or lesser level of calorie

consumption (Figure 1). If one thinks of the chosen consumption level as the threshold, the curve will show the associated calorie intake headcount.

Figure 1: **Cumulative distribution of per capita calorie**
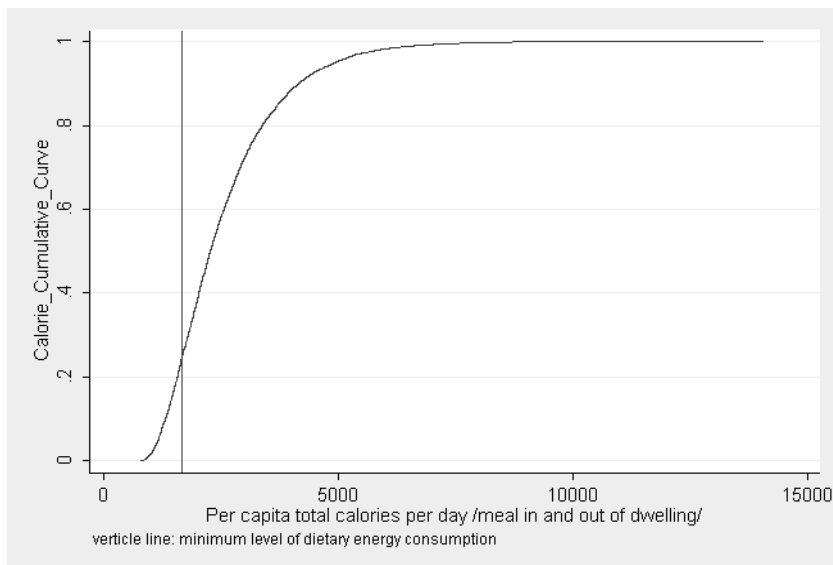
Hence, at a minimum level of calorie 1680 per person per day, around 25 per cent of the population is undernourished. Nonetheless, given that the slope of the distribution is relatively steep around that level, it is likely that small changes in the minimum level threshold will have large impacts on the proportion of undernourished people.

Table 3: **Proportion of population below minimum level of dietary energy consumption**

Population group		Proportion of population
National		25.01
Poverty status	Non poor	12.77
	Poor	47.37
Urban/rural	Rural	28.65
	Urban	22.31
Region	West	35.47
	Highlands	28.54
	Central	22.46
	East	28.54
	Capital	18.08

Table 3 presents the indicator which is proportion of population below minimum level of dietary energy consumption by national and disaggregated level. The proportion of population below minimum level of dietary energy consumption in Mongolia is 25.1 per cent, which means that around 660.0 thousand

individuals are considered undernourished.[29] From Table 3, we can see how does the proportion vary across poverty status and the country? The capital is the region with less undernourished and the Central region ranks second, three out of ten inhabitants are undernourished in the East and Highlands. Interestingly, this result is very consistent with the incidence of poverty in Mongolia. [30]

What is the sensitivity of these findings to season[31]? A relevant feature of poverty and consumption in Mongolia is its seasonality. Livestock and agricultural activities may determine substantial fluctuations in consumption along the year. The composition of food consumption may change drastically, with more intake of dairy products in the summer, more vegetables in the autumn, more meat products in the winter and somehow a lean period during the spring. The autumn is considered a season of relative abundance because it benefits from the remaining higher dairy production from the summer and the

[29] The estimated population at the end of 2007, the mid-point of the period covered by the household survey, was 2,635,169 according to administrative data.
[30] See, Poverty profile. NSO of Mongolia (2009)
[31] Summer could be assumed to last from June to August; autumn, September to November; winter, December to February; and spring, March to May.

early availability of meat for the winter. I try to reveal that pattern using stochastic dominance analysis. It relies on graphical tools and focuses on the entire distribution of calorie consumption.[32]   From Figure 2, we can see that spring and winter display the lowest levels of calorie consumption in the year.

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[32] By plotting two or more cumulative density functions of per capita calorie consumption in the same graph, it is possible to infer first-order stochastic dominance. Distribution A first-order stochastically dominates distribution B if for any given level of per capita calorie consumption, the share of the population with a lesser or equal level of consumption will always be lower in distribution B.

Figure 2: **Cumulative distribution of per capita calorie, by season**
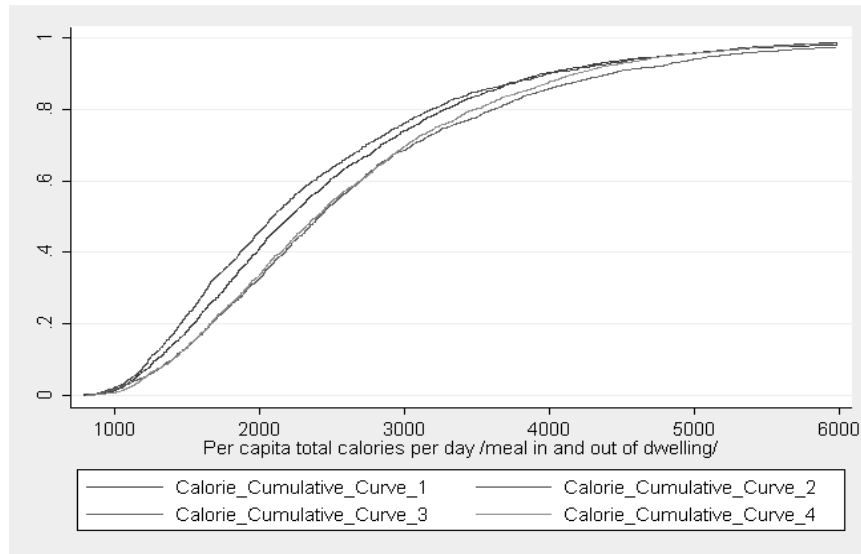
I then study group of foods households use to get their calorie and macro nutrients from. Figure 3 represents the percentage of nutrients from different groups at national level. Flour, rice are main source for calorie, protein and carbohydrates and oil, dairy products are seemed be main source for fat. The proportion of nutrients from food groups by poverty is displayed in the Table A.5 in the Appendix.

Figure 3: **Proportion of nutrients from food groups at national level**
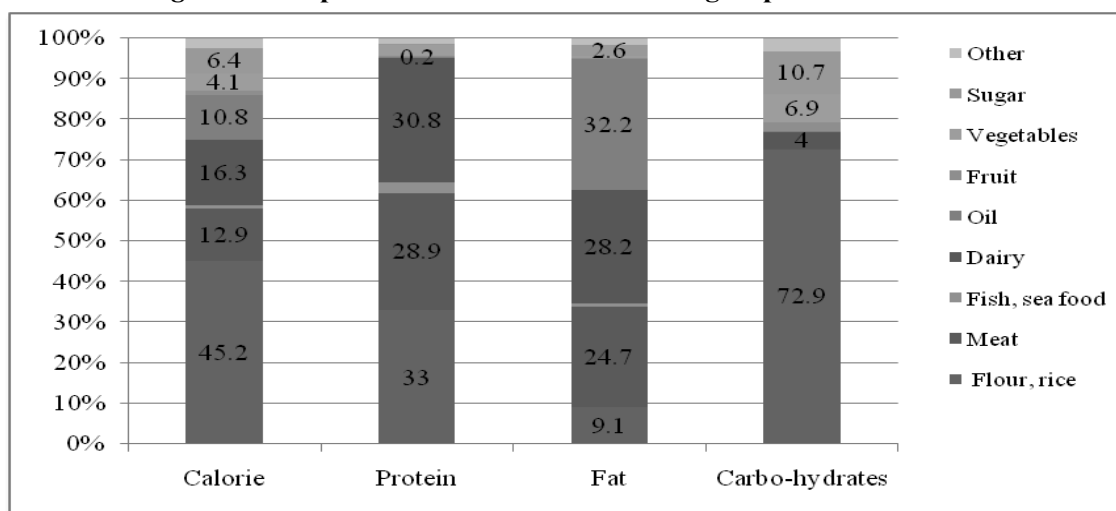
I then analyze how calories taken from each food changed by poverty status (Figure 4).

Figure 4: **Proportion of calories from food groups by poverty status**
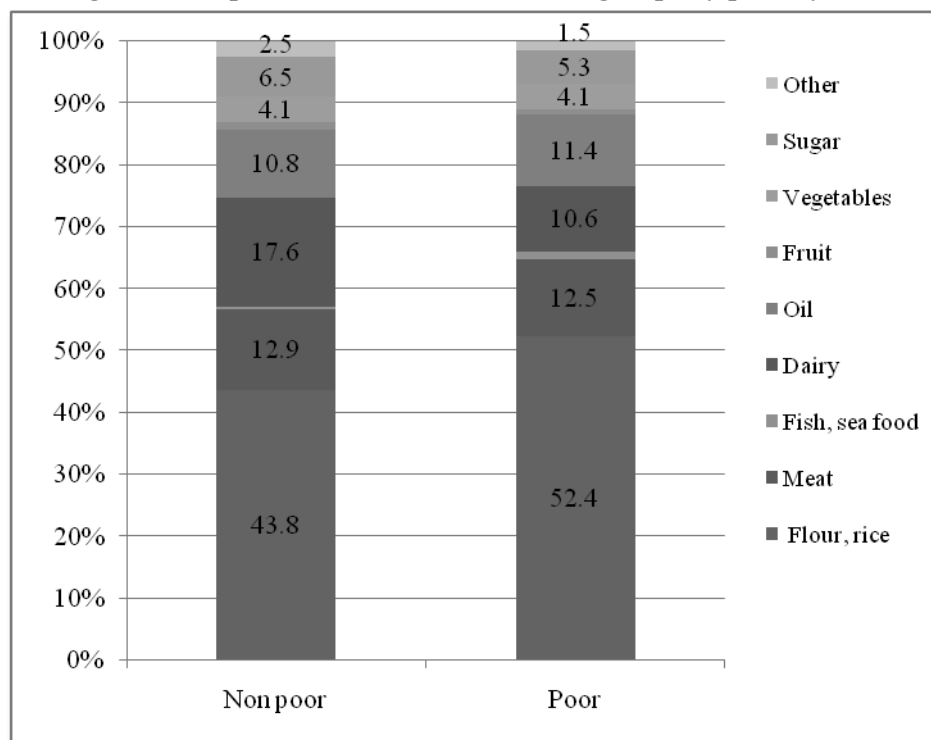

I plot the percentage of calories coming from different food groups at each poor and non poor level. For the national flour, rice, dairy, meat and oil products are main sources for calorie. Two clear findings arise: non poor households tend to substitute flour and rice with dairy, sugar and other foods; there is no any remarkable difference in consumption on those fruit and vegetables which can provide more essential nutrient across the groups.

CONCLUSION

The analysis of food security, poverty and nutrition provides essential insights for creating appropriate and effective policies and programs to address these issues. Using the HSES 2007/08 data, this paper has analyzed the relationship between nutrient consumption and poverty in Mongolia. Poverty plays an important role in the household nutrient consumption, according to quantitative results of this study.

The food security indicators such as nutrient intake and adequacy ratio are examined by poverty status. The mean intake for nutrients can provide general pattern about a household's ability to spend on food. The findings show that the difference between nutrient consumption between the poor and for the non-poor was quite large and statistically significant. The adequacy ratio, another food security indicator, reveals that poor households are below the benchmark level of all nutrients except animal fat. And it can imply that deficiencies in nutrients are a problematic issue only for poor households while all the population is facing a problem with excess of appropriate intake for animal fat.

One contribution of this study is to estimate an indicator of the goal 1 of the MDG that has been not estimated in Mongolia yet. The proportion of population below minimum level of dietary energy consumption in Mongolia is 25.1 per cent, which means that around 660.0 thousand individuals are considered undernourished.

Although the food security indicators which are used in this study are easy to understand, it does not provide information on the

response of nutrient consumption to changes in household welfare. This could be a limitation when evaluating or making alternative policy options, for example, the cash money program and food supply program.

In order to obtain a more complete description of the situation, study on relationship between household welfare and nutrient consumption should be explored. My next study will focus on that and will provide estimates of the extent to which nutrient consumption at household level increases in response to changes in household income and consumption.

The findings of the study also suggest that serious attention is needed to diversify the food diet of the poor. A poor person consumes around 40 items of food, while a non-poor consumes 60 items. Moreover, fat consumption intake, which is stated as the main reason to malignant neoplasm and death in Mongolia, is very high[33] among the population.

To conclude, the best way to fight the food security problem in the country could be the combination of policies that increase household incomes and that provide information on how to obtain a balanced and healthy diet.

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APPENDIX

Table A.1: Per capita income and consumption, by groups		
Categories	**Per capita income by MNT**	**Per capita consumption by MNT**
Poverty status		
Non poor	106707.1	129292.8
Poor	47449.7	44710.2
Urban/rural		
Rural	66629.8	80218.4
Urban	99913.8	113563.3
Consumption decile		
Poorest	37734.1	32617.1
2	47428.1	46331.5
3	58543.3	56919.9
4	66383.9	67604.9
5	75713.5	79207.3
6	85443.3	92003.9
7	102445.6	108639.8
8	116256.6	131245.2
9	136366.9	168902.6
Richest	181623.5	290130.2
National	**85737.0**	**99360.7**

Table A.2: A sample by stratum and month of the year				
	Capital	**Prefecture center**	**Rural**	**National**
July 2007	280	208	394	882
August	287	214	403	904
September	283	212	402	897
October	289	213	401	903
November	289	210	412	911
December	281	219	401	901
January 2008	287	211	404	902
February	288	218	413	919
March	290	218	402	910
April	292	205	413	910
May	294	217	408	919
June	293	215	405	913
Total	**3,453**	**2,560**	**4,858**	**10,871**

Table A.3: Per capita daily nutrient consumption, by groups

Nutrients	Urban/Rural		Strata				Quarter			
	Rural	Urban	Ulaan-baatar	Aimag center	Soum center	Country-side	1	2	3	4
Energy (kcal)	2391	2417	2503	2278	2359	2414	2287	2251	2666	2421
Total energy (kcal)	2411	2671	2851	2383	2388	2427	2432	2392	2839	2581
Animal protein (g)	66	52	54	48	58	71	54	51	70	55
Vegetable protein (g)	38	40	41	38	40	37	38	39	40	40
Animal fat (g)	63	60	64	54	55	69	57	53	75	61
Vegetable fat (g)	17	26	27	23	21	14	22	21	23	22
Carbohydrates (g)	313	321	327	310	321	308	303	305	337	323

Table A.4: Adequacy ratio, by groups

Nutrients	Urban/Rural		Strata				Quarter			
	Rural	Urban	Ulaanbaatar	Aimag center	Soum center	Country-side	1	2	3	4
Energy (kcal)	95.7	96.7	100.1	91.1	94.4	96.6	91.5	90.1	106.6	96.8
Total energy (kcal)	96.4	106.9	114.0	95.3	95.5	97.1	97.3	95.7	113.6	103.3
Animal protein (g)	117.6	92.2	95.9	86.1	103.7	127.2	95.9	91.4	125.5	99.1
Vegetable protein (g)	100.7	105.3	107.9	101.2	104.9	97.8	100.0	101.4	106.2	105.8
Animal fat (g)	226.6	213.6	227.1	192.0	195.8	248.0	202.7	190.4	266.3	217.5
Vegetable fat (g)	41.2	62.2	65.7	56.7	51.9	33.8	53.2	50.6	55.6	53.7
Carbohydrates (g)	83.5	85.5	87.3	82.6	85.5	82.0	80.9	81.7	89.8	86.1

Table A.5: **Proportion of nutrients from food group, by poverty statu**

Food groups	National				Non poor				Poor			
	Calorie	Protein	Fat	Carbo-hydrates	Calorie	Protein	Fat	Carbo-hydrates	Calorie	Protein	Fat	Carbo-hydrates
Flour, rice	45.2	33.0	9.1	72.9	43.8	31.8	9.0	72.0	52.4	39.9	9.7	78.1
Meat	12.9	28.9	24.7	0.1	12.9	28.0	24.1	0.1	12.5	30.6	26.8	0.1
Fish, seafood	0.7	2.5	0.8	0.0	0.6	2.3	0.7	0.0	1.2	4.7	1.6	0.0
Dairy	16.3	30.8	28.2	4.0	17.6	33.1	29.6	4.1	10.6	19.8	20.1	3.1
Oil	10.8	0.2	32.2	0.1	10.8	0.2	31.1	0.1	11.4	0.1	39.0	0.1
Fruit	1.3	0.4	0.3	2.3	1.3	0.4	0.3	2.4	1.0	0.3	0.3	1.5
Vegetables	4.1	2.5	0.6	6.9	4.1	2.5	0.6	7.0	4.1	2.7	0.3	6.6
Sugar	6.4	0.4	2.6	10.7	6.5	0.5	2.7	11.0	5.3	0.2	1.5	8.7
Other	2.3	1.3	1.6	3.1	2.5	1.3	1.8	3.3	1.5	1.5	0.7	1.9
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0