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Diploma Thesis
Analysis of food security in Mongolia

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Summary

This thesis has in the centre of focus the food security in Mongolia. It specifies terms that are connected to the food security such as types of malnutrition, undernutrition and micronutrient deficiencies. An analysis of the economic and agriculture development of the country and identifies the main farming system as pastoral nomadism as well as the main trading partners and evolution of GDP and shows how it changed over time. Furthermore Millennium Development Goals analysis is included as it helps to illustrate how the country changed over time and if it is successful in meeting given goals. A detailed analysis of food security based on food security indicators that are in accordance with FAO classification. Four main dimensions of food accessibility, stability, utilization and availability are specified in detailed and compared with Eastern Asian region and lower middle income economies.

Keywords: Mongolia, food security, agriculture, poverty, nomadism

Analysis of food insecurity in Mongolia

Mongolia is vast country in Eastern Asia with a population close to three million people. Historically Mongols were nomads and therefore their livelihood was completely dependent on their herd and moving around different pasturelands throughout the year. That way of living was changed during the 20th century under a communist regime, when the country was governed by the use of central planning which resulted in the loss of freedom of for the nomadic nation. At the beginning of the 1990s when the communist regime fell Mongolia had to adapt to change one more time as after the dissolution of the USSR Mongolia not only lost its economic partner but also the way the country was governed. It was in that time when the food security officially emerged as a problem.

This work shows the development of food security from 1990 and its goal is to analyse that food insecurity and find out which dimension is showing the worst results and to suggest possible solutions that might improve the situation. Firstly an analysis of the economic and agriculture situation has been done and revealed that Mongolia currently has a booming economy that is unfortunately driven by the mining industry, which is most likely not sustainable in long term. Moreover the country's trading partners changed since the 1990's and currently Mongolian exports flow almost exclusively to China and such a high dependency on one trading partner makes the economy highly vulnerable. Despite the rapid economic growth the tradition of pastoral nomadism still prevails and around one third of the population is still working in the agriculture sector. The food security analysis is based on the classification of the Food and Agriculture Organization which divides the food security into four main dimensions: accessibility, availability, stability and utilization. To put the result of the analysis into perspective, Mongolia was compared with two benchmark regions. For the first benchmark region, the region of Eastern Asia (to which Mongolia geographically belongs) was chosen. The second comparison was made with other lower middle income economies given the fact that based on the World Bank classification that is the income group to which Mongolia belongs. The analysis is summarized in Table 1 from which it is evident that the majority of indicators do not show a steady development, thus revealing how unstable the food insecurity is. Moreover, in comparison with the benchmarking regions the country is underperforming in all four dimensions with Eastern Asia as well as the lower middle income countries.

Table 1: Comparison of food security dimension – Mongolia vs. benchmark

	Mongolia				Eastern Asia			Lower middle income		
	1993	2003	2012	evolution	1993	2012		1993	2012	
AVAILABILITY										
Average dietary energy supply adequacy	85	94	104		112	124	↘	109	114	↘
Average value of food production	290	235	272		195	341	↘	165	206	↗
Share of dietary energy supply derived from cereals, roots and tubers	47	49	N/D		66	N/D	-	65	N/D	-
Average protein supply	71	74	N/D		73	N/D	-	58	N/D	-
Average supply of protein of animal origin	48	44	N/D		20	N/D	-	12	N/D	-
ACCESS										
Percent of paved roads over total roads	N/D	N/D	N/D		N/D	60.4	↘	49.4	49.8	↘
Road density	2.7	N/D	N/D		N/D	36.8	↘	21.9	N/D	-
Rail lines density	0.1	0	0.1		0.5	0.6	↘	N/D	ND/	-
Gross domestic product per capita (in purchasing power equivalent)	3331.8	4381.8	6475.4		2520.2	10165.2	↘	2898.3	5230	↗
Domestic food price index	N/D	1.52	1.93		N/D	1.90	↘	N/D	1.77	↗
Prevalence of undernourishment	51.4	34.9	24.5		21.4	11.9	↘	20.8	14.1	↘
Depth of the food deficit	398	281	192		168	96	↘	146	101	↘
Prevalence of food inadequacy	62.8	46.8	35.5		30.7	19.4	↘	29.2	21.9	↗
STABILITY										
	1993	2003	2012	evolution	1993	2012		1993	2012	
Cereal import dependency ratio	22.1	66.4	N/D		8.9	N/D	-	9.9	N/D	-
Percent of arable land equipped for irrigation	6.3	12	13.5		42.3	63.1	↘	27.2	32.6	↘
Value of food imports over total merchandise exports	12	14	0		4	N/D	-	11	N/D	-
Political stability and absence of violence/terrorism	0.00	0.96	0.59		0.00	0.00	↘	0.00	0.00	↘
Domestic food price volatility	0	23.4	22.3		0	9.1	↘	0	4.6	↘
Per capita food production variability	20.1	43.8	40.4		2.2	4	↗	3.9	3.1	↗
Per capita food supply variability	147	16	26		40	16	↗	53	30	↘
UTILIZATION										
Access to improved water sources	62.3	73	82.3		72.1	91.8	↘	73.3	87.3	↗
Access to improved sanitation facilities	47.2	50.8	55.1		32.9	66.2	↘	31.6	46.6	↘
Prevalence of anaemia among pregnant women	31.6	25.1	24.8		N/D	N/D	-	N/D	N/D	-
Prevalence of anaemia among children under 5 years of age	37.9	23.8	25.4		N/D	N/D	-	N/D	N/D	-

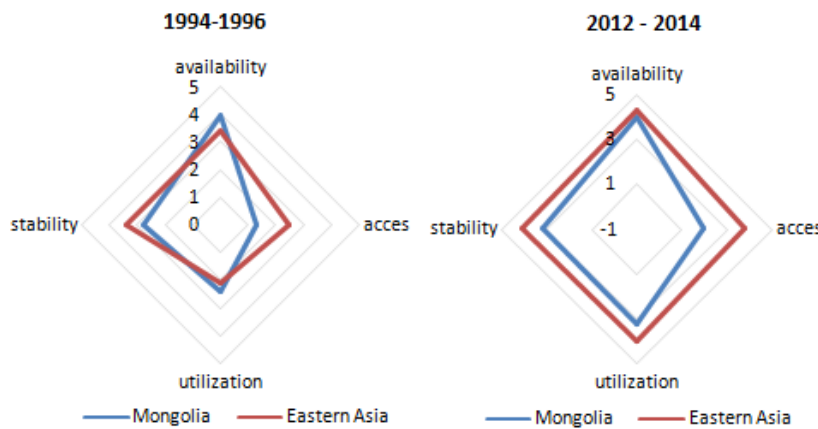
↗ Mongolia is performing better than benchmarking region

↘ Mongolia is performing worse than benchmarking region

- lack of data

Graphic comparison of the four main dimensions for Mongolia and the Eastern Asian region is shown in Figure 1. In the figure the more area the quadrangle occupies, the more

Figure 1: Food security dimension of Mongolia in comparison with Eastern Asia



successful that region is in terms of given dimension of food security. It is evident that Mongolia is showing an improvement in all four dimensions however that improvement is not occurring quickly. Furthermore if we look at how big the quadrangle representing the Eastern Asian region is, it is clear

that Mongolia is below average in the accessibility, stability, availability as well as the utilization dimensions. Figure 2 graphically represents the current state of the food security dimensions in comparison with the lower middle income countries. The result of that comparison is similar to the one with Eastern Asia. The positive finding is that Mongolia is showing an improvement with the majority of indicators however it is still in the left part of the figure which means the result is worse than the result of lower middle income countries.

Figure 2: Food security of Mongolia compared to lower middle income countries



Taking into consideration the rapid growth of the Mongolian economy and slightly disappointing results of the food security analysis it is evident that increased wealth of the country is not having much of an impact on the food security and poverty of the population. The access dimension is the one Mongolia is having the biggest difficulty improving. The government should invest into improving the road infrastructure in both rural and urban areas as especially for rural areas without quality infrastructure people do not have proper access to a variety of food but are limited to their livestock, which does not fulfil healthy dietary needs. In addition, access to health facilities is also limited, not to mention that in case of a severe winter (dzud) necessary aid cannot be effectively distributed. Infrastructure also needs improvement in Ulaanbaatar, where over 40% of the country's population lives as the growth of the city is uncontrolled and almost half of its population is living in slum-like conditions. The government of Mongolia needs to invest more into improving the wellbeing of the population considering the fast economic growth.

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