

The Way of Opportunities to the Food and Environmental Crisis

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1. Feature of Mongolia

Animal husbandry is an important field for the stable development of Mongolia and food supply. With economy dominant by running of pasture livestock, it supplies domestic needs with raw livestock hide, as well as exporting its wool, cashmere, meat and hide. Our pasture livestock and economic pivot account for over 80 percent of total agricultural output aggregate and 30 percent of exportation. There were 43.3 million livestock counted at the end of year 2008 (Mongolian Statistical Yearbook. p207.2008)

Mongolian territory has various ecological zones and 115 thousand hectares of 1.5 million square total of territory are agricultural land and 83.2 percent of its territory is rangeland. Normally, it is thought that 74.6 million heads of livestock can graze on this rangeland. The stock meat is nutritional, and has a unique taste with low cholesterol, that the 2800 types of plants growing in rangelands including 600 types of medical herbs which are used for fodder. Our five major kinds of livestock such as camels, horses, cattle, goats, and sheep are accustomed to the Mongolian harsh climate. This includes whether it is grassy or not, through winter to summer, or whenever there is natural disaster. Our pasture livestock can absorb 40-50 percent of its necessary feedstuff and 28-36 percent of simple protein per day, while the stock grazing from morning till evening. The extensive livestock is able to weather the cold season, which lasts for 180-210 days by feeding on nutritional sedge. (Research Institute of Animal Husbandry)

2. Today's environmental condition

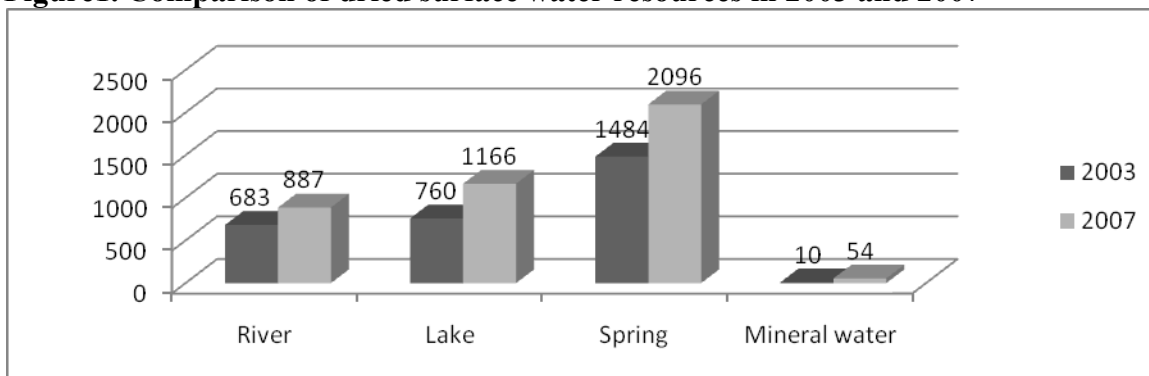
Impacts of global climate change adversely affect environment and development of Mongolia resulting in climate change, land degradation, scarcity of water, deforestation, biodiversity loss and poverty. There is a large shortage of natural resources such as pasture, forest, soil, water, animal and air. During recent years, several disasters such as droughts, frosts, heavy snow falls, dust storms, flood, fires and also damages caused by pests like rodents have taken place in Mongolia and have caused severe damage to population, economy and the environment, as a whole.

Water-as the first precious food of humanity

In recent years, in Mongolia water resource scarcity is appearing in some regions of the circumstances of climate change and human impacts. As the affects of mining activities, the aquatic ecosystems with insect and fish populations had been changing. Fresh water fish cannot survive in heavily polluted blurry rivers and the amount of fish which get infected by diseases are increasing. Ground water sources which are close to the Capital city and the other bigger cities are polluted by urban waste and garbage since the regulations for protected zones are not obeyed. Most of the engineer-designed wells were broken and hand-made wells were overloaded in a recent decade. Some water sources are polluted by animal excretion and household rubbish including

condition of contagious disease distribution to the people. As the preliminary result of a state inventory for surface water was conducted in 2007 the 887 rivers of total 4290, 2096 springs total of 7244, 1164 lakes total of 2569 had dried out. (N.Batsukh. Water Resources, Use and Conservation in Mongolia. p27. 2008)

Figure1. Comparison of dried surface water resources in 2003 and 2007



Source: State surface water registration preliminary results executed in 2007

According to the LANDSAT7 satellite information of the glacier study in four higher mountains, the glacier area decreased by 30 percent from 1940 to 2002 as shown below:

Table1. The changes of the glacier area /km²/

Glaciers	1940	25 June 1992	10 Sep 2000	8 Aug 2002
Kharkhiraa	43.02	█	35.08	31.29
Turgen	50.13	█	34.74	33.63
Munkh-khairkhan	█	36.96	--	27.42
Tsambagarav	105.09	90.98	74.8	71.52
Sair	█	11.51	--	6.62

Source: Terrestrial changes in Mongolia Workshop

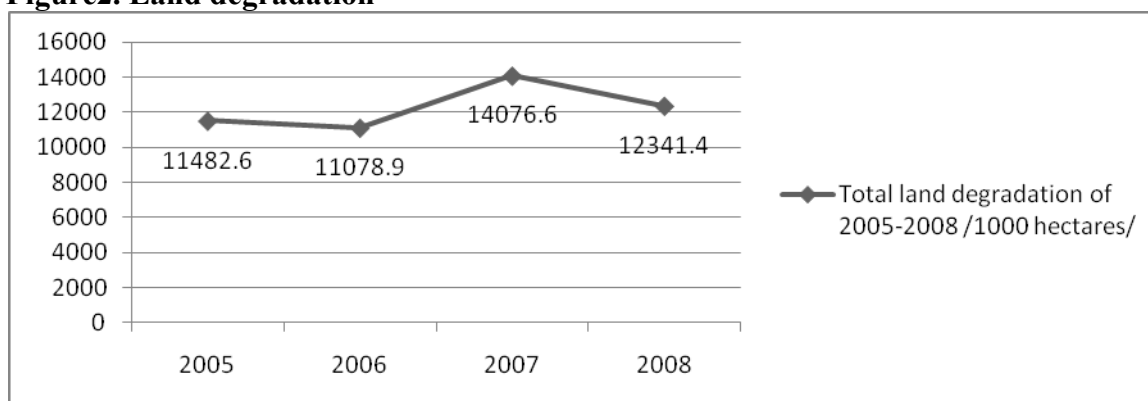
These results show that the water resources are rapidly becoming scarce, making trouble for state and public water users.

Soil-as the source of our food

A lot of factors such as strong storm in spring, many of mines of gold, coal, copper and disordered road in the countryside has caused soil erosion and has not made any biological rehabilitation. Wide plantation and fertile soil are being polluted by chemicals, nonconforming fertilizers and seed with no outside controls. Land degradation from overgrazing is taking a heavy economic toll in the form of lost livestock productivity. Because of continued land degradation, population of livestock, pastureland areas and crop yield are decreasing. Furthermore, desertification process has continuously intensified. In addition, over 70 percent of Mongolian territory became a

desert as a result of global warming and dryness. On the other hand, ecological balance is being lost, caused by the weak environmental conservation.

Figure2. Land degradation



Source: Mongolian statistical yearbook. p65.2008

Table2. Land use /thousand hectares/

	Total area	Degraded land
Pasture land and hay field	128937.1 /99.1%/	101000.0 /78.4%/
Crop farmland	757.5 /0.6%/	436.5 /57.6%/
Mining area	28.0 /0.02%/	19.6 /70.0%/
Urban land	433.5 /0.3%/	-
Total	130156.1 /100%/	101456.1 /78%/

Source: Study of Ministry of Nature and Environment. 2004

3. Food and Health

Food

Mongolia is a country rich of livestock, fishes, wild fruits and medical herbs. However its access processing cannot provide for the whole public. In recent years in Mongolia trade import is developed and there are more such sorts of food in the markets as ever been before. Also domestic food producing companies broadly increased at the same time of state food industries'. Their slogan is "If you have money, buy everything you want!" But sometimes families cannot find any of the safe food for dinner besides our livestock meat and wheat flour, even if they have enough money to eat, because the food access depends not only on income distribution and sufficient quantity nor on quality and nutrition.

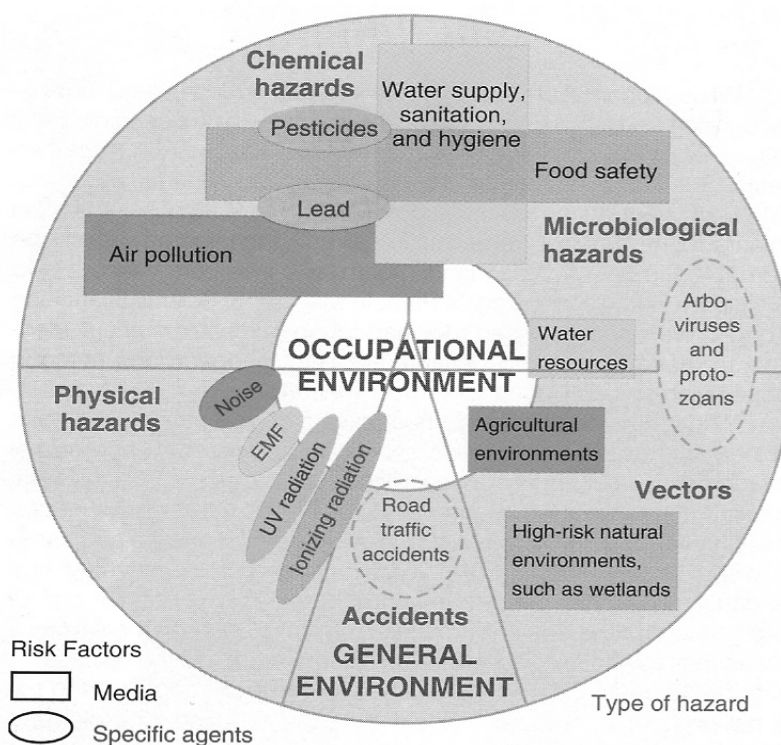
Mongolia is one of the countries with the medium risk of food shortages (Food and Agriculture Organization /FAO/ 2004). Thousands people cannot be provided by the diet intake of 2,200 kcal per day, on average, considered necessary for a healthy productive life. The population is 2,683.5 and the poverty takes 68.5 percent of it. Monthly food expense per person is average of 36,240 Mongolian tugrugs equals to 25\$ US. (Mongolian Statistical Yearbook. p306-309. 2008) That is only national

average indices, but there are many people who live on less than 1\$ US per day all too often can't buy the food they need and don't have access to resources to grow it for themselves.

Health

Environmental health focuses on external factors that cause disease, including elements of natural, social, cultural and technological worlds in which we live. Figure3 shows some major environmental disease agents as well as the media through which we encounter them.

Figure3. Major sources of environmental health risks



Source: Environmental science. Part 2.p148.WHO.2002

We have all heard that diarrhea, acute respiratory illnesses, malaria, measles, tetanus and a few other infectious diseases kill about 11 million children under age of five every year in the developing world. (William Cunningham. Environmental Science, Chapter8. p147)

In Mongolia these infectious and chronic diseases are most registered in Internal Disease Ambulatory of the National Research Center of Maturity, by ratio, such as Viral hepatitis, Diarrhea, Pneumonia, Ricketts, Shigellosis, Brucellosis, Birth defects, Malnutrition, Measles, Varicella, Mumps and Meningococcal infection, which have been taken place between the children under age five. Also it is so painful that there are increasing numbers of deaths caused by chronic diseases, especially cardiovascular disease, cancer, malignant neoplasms of liver and stomach, diseases of digestive system, prenatal problems, respiratory cancer between young and middle-aged people of Mongolia (Mongolian Statistical Yearbook. 2009). Specialists explaining the results

show increasing use of polluted water, unsafe food, air pollution and stress, thus stress and uncertain eating habits have most people.

4. Tradition

Mongolian wild nature was a good example of traditional respect for nature. On the basis of abiding to their ancient law and order, the Mongolian conscience is connected to the custom of kindness and love for the beauty of nature. They have always respected and kept rangeland, forest, water, wild animals and other natural resources whenever they live, go or move across the land.

In the view of ecological composition:

- ✓ Central Asians have always thought that “**Water** is rare treasure”. Thus, Asians typically conserve and love their water and its source. Law had not allowed the redirection of rivers, the digging of springs, or blockage of river sources, nor putting dairy products, meat, blood, or garbage into water supplies.
- ✓ Nomads had used their rangeland correctly by improving and loving the pasture by not overgrazing. One of the best foundations of ecological education is teaching our children how to care for **plants**. It is also good to let them to learn and memorize by sight the names and natural benefits of medicinal herbs’ further. These are the actual sources of supplying range plant development, and keeping its structure correctly and clearly.

Therefore Mongolian stock meat is tasteful and its dairy products contain a lot of protein and multivitamin. Mongolians didn’t always use meat in summer; they have used wild fruits and dairy products instead of it. Mongolians had picked medical herbs during the time and dried them for their treatment. In addition teas are prepared using medical herbs. Their tireless work and experience is helpful knowledge for today’s experts to advertise dairy products.

5. Conclusion

Continued impacts of global climate change such as land degradation and decrease of water resource affect to the socio-economics of the country. Due to the combined effects of drought and *zud* /severe winter/, over 12 million heads of cattle had lost and the loss was estimated by 380 million USD in total during 1999-2002. More than 7000 herd’s families are suffered from the loss of cattle and their life is in threat of poverty, hunger, and insecure life situation. (Ts.Adyasuren, Impacts of Global change to the environment and development in Mongolia. p10. 2003)

Millions of people in the world cannot find safe food and we explain it because of global climate change, land degradation, increasing number of population, poverty, unsafe food processing, etc.,

There are considered needs in Mongolia like the others, to raise food safety standards and to reduce the incidence of diseases from food. Fundamentally it is related to health and hygiene, considerations also relate to husbandry practices, storage, handling and processing.

It seems better nutrition, clean water, improved sanitation and inexpensive inoculations eliminate most of those deaths which afflict the public.

In order to recover from illness and stress, whole world aspire back to the nature. The fields of food, medicine and beauty are trying to produce ecological safe products.

Traditional Mongolians treat nature with respect by adapting their livestock appropriately. This is the good result of nomadic livestock breeding, lifestyle and civilization.

Our present generation must protect our beautiful nature and its resources for the future generation.

6. Solutions-One special way

So how can we contribute to finding solutions to the food and environmental crises?

Continuing our environmental education and helping others understand the challenges we face, in addition to some of our options for solving them, can be an affective step. Most importantly, we all need to know and enjoy some part of nature. How can we protect what we don't know or love? As a student of the field of Environmental conservation, I founded a group named "Eco-Campus" in March of this year at my school and our team aims to do the following, so this is my solution ideas for ISS:

6/ Make relationships with secondary school students based on the study of environment and practice by sharing what we have learned,

5/ Change our approach to the life and our environment,

4/ Remember and practice our traditional communication with nature on the basis of recent condition,

3/ Participate in the rehabilitation, use and protection of rangeland and other natural resources,

2/ Share our daily bread to others, who are hungry, ill, poor and painful in their

heart

It is good that we have a lot of ideas to overcome and eliminate crises of the globe. It's not enough to simply be agitated with our social condition and wait for its developing without our participation. We see that development alone cannot bring welfare. Development is an expression of knowledge, intelligence, skills and opportunities.

However, a person doesn't live on his or her basis of knowledge. The inhumanity rises from a day to day in our recent world and in every society we feel hurting everyday.

It seems the truth of the whole earth life is included in the words by a wise man said:

"If I have the gift of prophecy and can fathom all mysteries and all knowledge, and if I have a faith that can move mountains, but have not love, I am nothing"... (NIV. *The Holy Bible*. New Testament. 1Corinthians. p1167. 1991)

Have you ever been asked the following?

- Why do people produce and sell poisonous products. Do they know about it or do they not want to know about it?
- Why do people communicate wrong and cruelly with the environment?
- Are they careless or unnatural?
- Why are they polluting and destroying the soil that is the source of our food?
It cannot be re-created! ...

I can say all of today's crises are the result of selfishness of people who love money, aim to get it easily. In my opinion, this is the basic problem on solving the crises...

In fact, I appeal to friends from around the world to the optimal way that is special to create a precious solution:

**1/ Let's change our hearts tendency first!
Let's love others like ourselves?!**

The people won't produce products with low quality and poison if their hearts are clear and have full of loving others. If the heart is like that people are careful with their products instead of only looking for easy gains.

Of course people who have hearts full of love are not selfish and greedy. They communicate with nature with kindness and respect, try to make any mistakes. If mistakes are made, they are corrected. People with hearts full of love, will deal kindly with nature around them.

*"If heart could be clear and kind, the environment will also be clear
If the environment could be clear, the heart will be pleasant and
peaceful*

If the heart will be pleasant and peaceful, our life will be light..."

M.Sansarmaa☺

References

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