

## **Lesson 3 – Ask the Expert – Dr Troy Sternberg – Impacts and Futures of farmers in The Gobi Desert**

***What are the typical daily activities will farmers and herders do in each location?***

In **Minqin**, the land is so arid that farming is only possible due to water infrastructure. The Shi Yang River starts on the Tibetan Plateau and through dams and a reservoir provides water supply for the farmers. Farmers have an electronic swipe card which they use to access the water quota they are allowed. Water, whether from the reservoir or local wells, must be paid for (at different rates) by the farmers. Water is allotted by the government so there are limitations on the amount farmers can access. The usual farming cycles apply with planting in the spring and harvest in the fall being busy times. The farmers spend the day tending crops, watering, weeding, etc.

### **Xilingol**

Though actual herding activity has been reduced people with animals have not shifted to farming as they lack access to land and water. In Xilingol attention is given to milking and finding fodder. This might mean grazing along a road, trying to gather hay elsewhere to bring to the animals or purchasing fodder in town.

In Mongolia the day starts with tea before driving the animals out to pasture. During the day the herder keeps an eye on the herd, leads the herd to water, tends to animals needing care, making repairs to the corral or equipment etc. There is also time to visit family and neighbours as part of the daily routine and keeping up with news and pasture conditions.

***In their daily lives – how do they the farmers of the Gobi desert get their own food? Are they food insecure now?***

In Minqin and Xilingol farmers and other villagers will buy food from the local market. The food they are producing, especially in Minqin is mainly monoculture for the rest of China. As long as they make enough money from farming and they can afford to purchase food at the local market they are food secure.

However if their crop fails due to a winter wind hazard in Minqin (summer drought hazard was considered less of a risk due to the heavily managed water supplies), then they have

nothing to sell and therefore no purchasing power to buy food locally. As discussed in the paper winter winds could rip apart new greenhouses. Often farmers have taken loans out to pay for these – so they can become dependent upon the government.

Another challenge can be if the price of their given monoculture crop falls. Last year some of the farmers had been told to grow onions. The price of onions fell dramatically – so much so they bags the onions were sold in were worth more than the onions themselves.

Both of these challenges contribute to farmers in the Gobi in China becoming so indebted they may have to give up farming and move away – often to the industrialised east to earn money to pay back the loans. So they are not immediately food insecure. However, rural life in the Gobi does not appear sustainable and the continuing rural to urban migration of the rural poor may very well lead to food insecurity for the urban poor in the future.

***You mention in your paper that the Mongolian herders are farming more goats now – why is this?***

There has been a switch to goats because of the value of cashmere. Cashmere is the soft, fine undercoat fibres goats grow in the winter. The high cashmere price (£25-35/kg) provides the bulk of a herder's cash income. Cashmere is harvested in late spring and provides money for household expenses and new purchases. Cheap motorcycles, solar panels and mobile phones are popular purchases.

***What farmers (out of the 3 field work locations) would you say face the worst hazards and food insecurity?***

Mongolian herders face the worst hazards. Usually this is the extreme winter conditions though it can also be drought in spring and summer and even insect invasions where swarms of grasshopper-like insects eat much of the pasture vegetation, leaving little for animals. The challenge is dealing with natural conditions, something difficult in Mongolia due to a lack of infrastructure, great distances, limited organisation and limited funding. However, there is little food insecurity because a Mongolian's diet is based on meat and milk from his animals. When a family loses most or all of his animals it must either receive support, usually from relatives, or move to town to seek work.

In China potential insecurity comes with crop failure or market collapse – in 2012 onions were left to rot because of overproduction. Without income staples are unaffordable. This leads to borrowing money or sending family members to work in a city. Hazard vulnerability is reduced by strong governance and infrastructure that aids response to climate events. For example currently drought ceases to be a hazard in Minqin because of water supplies yet sustainability of the system is an ongoing question.

***Is there any data that shows evidence of climate change in the Gobi desert? Do you think this is an additional challenge these farmers may face in the future?***

Warming climate trends have been identified in the region. Projections show the Gobi region getting warmer and experiencing precipitation intensity and volatility (un-predictability). If further warming occurs in winter this may benefit herders. However, if it occurs in summer it would increase evaporation, reducing moisture for vegetation.

Changes in climate will require relevant responses and adaption ability. Farmers in a tightly controlled system will depend on government initiatives to cope with warming temperatures. Increasing temperatures are likely to increase evaporation, making adequate water a great problem. There are limited options for the government to increase water supply and usually responses (pipelines, new dams) are expensive.

A good place to start for climate assessment is with the IPCC (Intergovernmental Panel on Climate Change) website:

[http://www.ipcc.ch/publications\\_and\\_data/ar4/wg2/en/ch10.html](http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch10.html)

[http://www.ipcc.ch/publications\\_and\\_data/publications\\_and\\_data\\_reports.shtml](http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml)

Traditionally decisions are made on economic lines e.g. crop selection or animal choices (such as goats) are often made for economic rather than environmental reasons. An ongoing challenge therefore is accommodating livelihoods to environmental reality.

***To what extent does Minqin and elsewhere in The Gobi in China contribute to its 'international exports, or is food produced here just for local/national consumption?)***

The food produced is consumed locally or regionally. This was the cause of the onion crisis – farmers were unable to transport and sell onions to other parts of China at an affordable price.

Mongolian cashmere is very international. First, most is sold to China. Second, Mongolian cashmere makes its way into expensive sweaters sold in London and Paris High Streets. However, most of the value is added after it leaves Mongolia.

***Do you think the traditional nomadic way of life practised in The Gobi Desert was more food secure? Why?***

Traditional nomadism was a subsistence-based lifestyle. In that way the animals provided the essentials of life – food, shelter (wool tents) and clothes (wool, skins). In this form nomadism continued for millennia. The great change has been the evolution of a market economy that is money-driven and offers new possibilities (income, education, health care) and temptations (motorcycles, phones, travel). Conditions have changed so much that 'traditional' nomadism is not feasible. Many of the strengths of nomadism can be incorporated into pastoralism today.

***When the herders from Xilingol or the farmers from Minqin are forced to move east, what challenges face them there? Particularly in relation to food insecurity?***

A challenge with moving, or being moved, is that usually someone is already in the area, land is controlled and newcomers are seldom welcomed. The other option is becoming a labourer in a factory. Today through 'ecological resettlement' the government may provide a small house so the initial picture looks OK. The problem is that there is not enough pasture in a village to sustain livestock. This creates new challenges as fodder is costly and there are few income options. Farmland is often poor – the best is already taken – so may require additional investment (fertilisers, irrigation) to be productive. If production or viability is reduced then food insecurity increases.

***What challenges do the communities left in the rural areas face?***

Big challenges in rural communities include labour, government services and marketing opportunities. In China there has been a 'hollowing out' of communities where economic conditions have led a majority of 20-45 years to migrate to other parts of the country in search of jobs to send money home. The result is that mainly older residents do the work (young are in school).

As rural areas are less desirable than cities for officials the focus is often on meeting targets and personal advancement rather than local concerns. In Mongolia there is simply a lack of expertise and experience in the countryside government.

Limited marketing, organisation and opportunity hurts rural communities. In a large area it is often too expensive to individually or as a group to get products to profitable markets. The price of petrol makes most efforts unfeasible.

***What do you think are the wider impacts both nationally and internationally of the Gobi desert becoming an increasingly hazardous and food insecure place?***

The interesting fact is that the Gobi is booming economically. This is driven by mining on both sides of the border. The issue is policy and support in rural areas. The new tax revenue could improve hazard preparedness and response; more likely conditions will muddle along. In China there is little international scrutiny, response will be limited unless new social disasters occur.

In Mongolia mining suggests that with increased economic activity demand for meat should increase, perhaps creating new possibilities for herders. As with the 2010 extreme winter, Mongolia will depend on international attention and assistance which can motivate better governance. Conditions also reflect a great change as Mongolia evolves from a pastoral to a developing urban society with new goals and aspirations.

In the drought in 2011 in China, you mentioned that the drought in the Gobi was coped with by importing wheat from other countries. Was this given free, as food aid, to the rural Chinese farmers of the Gobi desert – or subsidised at the local market?

The purchase of wheat was to ensure adequate national reserves and maintain affordable prices for the 'masses'. In 2011 reserves were bolstered; aid was not given out in the Gobi. The whole focus is on maintaining social stability (avoiding a food crisis) so that the Communist Party can remain in power. A rural Chinese might know nothing about the global commodity market (or government policy).