

# **Changing Gender Roles in the Changing Environmental Conditions in the Himalayas:**

## **Upper Mustang, Nepal**

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### **Climate Change magnifies inequality**

Climate change is not neutral. Although it affects everyone, the intensity differs according to the vulnerability and coping abilities. Climate change impacts both men and women, but differently. Gender issues are often wrongly understood as being only women's issues, whereas it is about both men and women and their roles and relations. It is usually perceived that the impacts of climate change are mostly physical and economic and are equal, but, there are social and cultural impacts distributed unequally.

The mountain areas are at greater risk than the flat lands due to their fragile ecosystem, vulnerability and lack of proper adaptation mechanisms. The Himalayas have been an important source of livelihood, as it is also known as the water tower of Asia, the source of ten of its largest rivers. Difficult climatic conditions, geographical terrain, inaccessibility make life in the mountain regions very difficult. And, with the changing environment, unpredictable weather changes, mountain people become the worst victims of global warming, due to lack of unpreparedness and vulnerability. Although they contribute least to climate change, they are the most vulnerable to the impacts of climate change.

Women in the mountains are double marginalized firstly as women and then as mountain women. In addition to the challenges of living in the mountains, like harsh climate and inadequate infrastructures, they experience unequal treatment based on traditional gender relationships that deprives them from equal access to health, education, property and wellbeing. In Nepal, women consistently face hardships, due to lack of access to market, education, exposure, information and communication, contributing to their increasing vulnerability to climate change.

### **Increasing working hours**

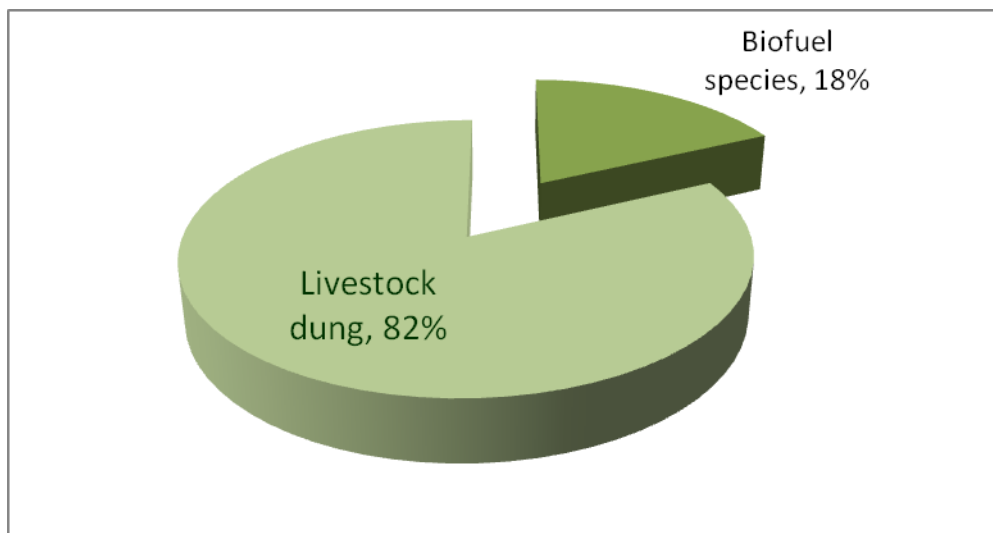
Around 60% of the land area in the greater Himalayan region is rangelands which are threatened by degradation and desertification (ICIMOD 2008). Rangelands are defined as those areas of the earth which, due to physical limitations, such as low and erratic precipitation, rough topography or cold temperatures, are unsuited for cultivated agriculture and are a source of forage for wild and domestic animals (Miller 1998).

Due to climatic and geographic conditions, men and women in Upper Mustang, of which 40% is rangeland, have to work long hours. Whereas men work on livestock grazing, women work on energy and natural resource management. Women in Upper Mustang work longer hours than their male counterparts. Women work for 17 hours in average and men work for 10.5 hours a day in the contrary. Women work 6.5 hours more than men everyday. Most of the women's work is difficult and physically laborious, without tools and technologies. The most time consuming activity is fuel energy collection where they spend 30.33% of their work time in this activity only.

### **Energy Demand and Supply**

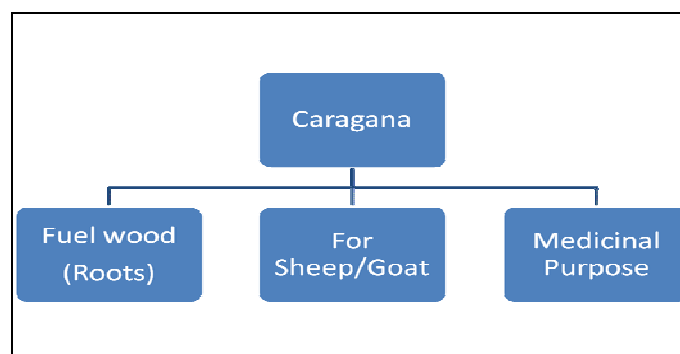
Women walk for long hours (5-6 hours a day in summers and 10-12 hours a day in winters) to high rangeland areas to collect fuel energy like bio fuel species and livestock dung for cooking and heating purpose. Due to lack of alternative fuel, women have to depend on livestock dung and fuel wood.

In Upper Mustang, there is an energy demand of 3.1 kg per person per day, totalling upto 6,123.6 metric ton per year. There is high demand for energy mainly for cooking and heating purpose, mainly because of its cold weather and tourism activities, which is met by very scarce natural resource, now affected by the fast changing weather patterns. Only 18% of this energy demand is met by the bio fuel species like *caragana*, remaining is met by livestock dung. However, livestock dung is needed for many purposes, viz, fuel, agriculture productivity and pasture cultivation. If the livestock dung is used for fuel energy, there is less manure left for agriculture, and even lesser for pasture regeneration. Energy issue thus has deeper impacts on women's everyday life.



### Energy Conflict

Caragana species is women's most preferred bio fuel as its roots serve as firewood since it ignites easily and burns good. But the practice of continuous uprooting of Caragana from underground ultimately puts pressure on its sustainability and its regeneration ability. With the increasing demand for fuel energy, caragana is being uprooted at a high rate for fuelwood, leaving less of its kind for grazing purpose for the sheep and goats. This has posed threat to livestock production. Moreover, Caragana for its medicinal purpose is highly demanded by the traditional doctors as well. Thus there is a vicious cycle of conflict between livestock production and energy demand.

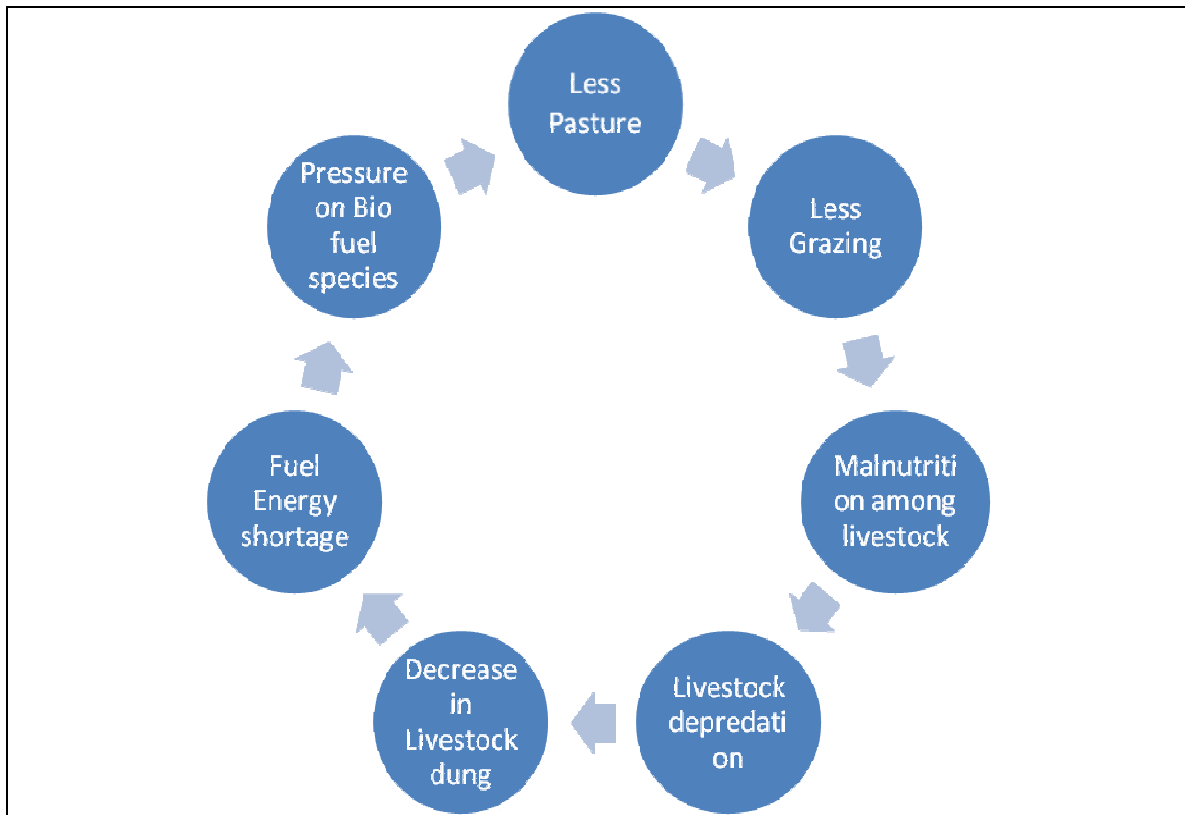


**Access to Safe Drinking Water** is another big issue at the high rangelands. Most villages of Upper Mustang still rely on river water for drinking and cooking purposes. Although there are community drinking water taps in villages, people still use river water, flowing in open canals, to cook, wash face and brush their teeth. Water contamination and hygiene pose serious threat to the health of the villagers.

“We have to stand in line for water for long time. Sometimes, we fight. It is always the women who have to worry about water in households. Men don’t even know what kind of problems we face in water collection and how much we have to fight for it” says Pema Sangmo (43 years old) of Lomanthang VDC.

Women in most villages still carry water in Jerry cans of 35 litres, from nearby rivers. Women conduct this activity at least twice a day. This is a physically laborious and time consuming task conducted every day. There are community drinking water taps in villages; however, they dry up during winter season.

### **How does Change in the Climate affect gender roles in the mountains?**



The figure shows the chain effects of climate change on livestock production and energy supply. Changing weather patterns lead to decrease in pasture growth, which adversely affects the food supply for the livestock, hence leading to malnutrition and ultimate depredation of livestock. Livestock depredation reduces the supply of fuel energy (livestock dung), used for cooking and heating purpose, thus increasing the pressure on other local bio fuel species like caragana. Ultimately, pressure on both the above sources of fuel energy leads to ecological degradation and unsustainable management of rangeland resources, affecting the environment and livelihood of

the rangeland areas. This ultimately puts additional pressure on the workload of women in collection of fuel energy.

### **Tools and Technologies**

Here the issue is not about whether men and women work or not. It is about "Who works how much with what kind of tools and technologies?" The difference in men's and women's work is widened by women's lack of access to tools and technologies. Where men demand for walls, women demand for threshing machines, where men demand for irrigation, women demand for private water pipes for drinking, where men demand for electricity, women demand for electrical appliance. There are differences in the demands of men and women, which is generally neglected. In case of trainings, men demand for exposure visits, whereas women demand for in-village trainings, where men demand for training in farming, women demand for training in weaving and knitting.

### **Conclusion**

Adaptation strategy to Climate Change is to explore new alternative energy that can reduce pressure on natural resources, at the same time increase efficiency. However, this has to be done considering the different energy needs of men and women, relating to distribution of, and power over, energy services. Alternative energy like micro hydro electricity, solar energy, wind energy, LPG gas or improved cooking stoves which require lesser fuel wood, have to be explored and promoted, to meet the increasing energy demand with limited supply in the unpredictable weather conditions and changing climate. Adaptation strategies have to be explored taking into account local knowledge and tradition.