

# Livestock Farming: A Speedy Solution towards an Enriched Nepal

N. Sundaram, Ajay Kumar Sharma

**Abstract:** *This study is an attempt to analyze the need to revive the economy of Nepal in a speedier manner. The long-term vision of Nepal is to harness its hydro-electricity extensively. But, in the immediate future, Nepal needs an industry that would sustain it. Livestock farming is an option that the nation could invest upon. The study touched upon the guideline given by the World Bank and explains why livestock has never been in the forefront seat of this country by analyzing facts and figures.*

**Keywords:** *Natural resources, Industry, Rural, Livestock farming, Nepal*

## I. INTRODUCTION

The word 'Natural resource' indicates that which exists on the earth without human intervention. For example gases, minerals, metals, animals, plants etc., Countries have grown richer through the use of such natural resources. In order to exploit natural resources, high rate of capital and manpower needs to be infused. Apart from that, there must be enabling factors that must aid such an effort. Nepal is a country that is affected by the vagaries of climate and obstructed hillocks. This prevents the sustainable exploitation of natural resources and thereby reaping development within a short period of time. Though the people of Nepal are industrious, facilitating conditions do not enable Nepal to be the hotspot of industrial production. Scattered presence of minerals and dependence on foreign aid to use these natural resources puts a question mark on the progress of this country.

Agriculture is another option to harness the natural resources of the country. This is hindered due to sandy loam and silty soil that cannot be used for cultivating crops that need fertile soil. Only three percent in South Nepal is found in fertile and cultivable land in Nepal is only 20%. Environmental fragility is another factor that needs to be taken care of. The earthquakes that occurred between 2015 and 2017 have shaken the confidence of the people in going for mineral extractions. Uncertainty looms larger in the political circles as well after the shift in 1991 from a monarchy rule to a republic country. This threatens the fidelity of the investors. The World Bank had laid out three I's in 2014 as the goal to make Nepal reach the path of development within a shorter period of time. The three I's are Investment, Infrastructure, and Inclusion. It notes that Nepal has not utilized its financial resources properly (Investment). This has retarded its infrastructure. In turn, it is the people of Nepal who are excluded (Inclusion) out of the development that this country has to achieve.

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So far, we have seen that the stakeholders of development have been cast out one by one. Development does not bode well for these stakeholders. Attempts have been made by the government to work out on the above-said mantra given by the World Bank. The 2013 public finance of Nepal saw \$ 6 billion revenue against an expenditure of \$ 7 billion. There was a deficit of \$ 1 billion. Hence, foreign aid by other countries has acted as an investment. Most of the investment has gone into hydro-electricity projects. The reason to invest in hydro-electricity is obviously that Nepal is a country that is rich in water as a natural resource (Ogino, 2019). Since these are long-term projects they take time to finish. Moreover, finished projects are facing redtapism. For example, India is ready to purchase electricity but Nepal is not satisfied with the tariff that is set forward by India. From the viewpoint of World Bank, even if Nepal can break from the shackles of Investment scarcity, it still struggles to solve infrastructure and inclusion problems. Since infrastructure relies heavily on investment, it is inclusion that can act as a quick remedial to save the economy of Nepal. This paper would focus on the inclusion aspect of Nepal citizens on the path to the country building.

As far as exports are concerned, Nepal imports more than it exports. The World Integrated Trade Solution of the World Bank pegs Nepal's import at \$ 6,612,094 against an export of \$ 660,181, in 2017. This twist further lowers the value of all the exported goods of Nepal. With the present condition of Nepal economy, there is a need for a robust economic framework to evolve in order to tackle the situation.

## II. LITERATURE REVIEW

Roy (2001) was of the opinion that development of Nepal was inevitable, but equally inevitable was the protection of its natural resources. Duwal (2017) noted that there were indigenous marginalized people who were relying on natural resources and these people were affected due to climatic changes that had brought degradation to the natural resources and thereby to their livelihood. Mishra (2003) suggested that since people of Nepal are the users of these natural resources, there is a responsibility on their part to preserve it. Upreti (2004) ranked forest and water as the most valuable natural resources in Nepal. Both of these resources were undergoing scarcity crisis and it affected the socio-economic development of the country. Borgstrom (1982) questioned the political will to harness the natural resources of Nepal. The author hinted at the need for political will to work out a visionary framework that can transform Nepal. Pradhanang (2015) pointed that livestock was a means for poverty alleviation, gender equality, climate change and ironing out the differences between the lesser and more developed areas. Livestock can be a source of biogas.

This could help in cooking, electricity and heating

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(Acharya, 2019). Dhakal (2019) calculated that an average household earned Rs. 53,000 per year out of livestock farming. Such a farming was predicted to uplift the socio-economic condition. The author identified development of the rural masses in terms of health, food security and income. This prediction would be true if there was a proper system to lend money, proper training and marketing facilities. Walelign et al., 2017 noted that it was the poor section of the society that reared livestock more. In order to rear these livestock, they were dependent on the forest. But it was a threat to rear the livestock in the vicinity of forests. Goats (87.3%) account for the majority of livestock that were killed. The authors suggested for improved husbandry practices, implementation of livestock insurance schemes and forest wildlife conservation awareness amongst the villagers. Additionally, Aryal et al., 2019 asserted that goat rearing can be incentivised for the poor rural folk through training, application of innovative methods and by lending money. Gilmour and Fisher (1991) and Mahat, (1987) observed that the improvement of livestock farming depended on the way forestry was managed. Jodha (1998) cautioned on the depletion of natural resources and the need to ration it through community governing bodies.

From the lights of the past research, it was found that livestock farming was an integral part of Nepalese citizens. It did impact the environment and was a vital component in each household. The positive impact that it could bring is in the lives of the poverty-stricken. The negative impact that it would have is on the climate change. This sets the thought on thinking about the complexity of managing natural resources like livestock and forests. In this study, the industry of livestock and the potential of this industry's contribution would be discussed.

### III. CONCEPTUAL FRAMEWORK

In 2015, Nepal was ranked as 25<sup>th</sup> amongst 141 countries in the world with regard to natural resources, as per Travel & Tourism Competitiveness Index (TTCI) 2015, published by World Economic Forum. That is the potential that this country holds, but it is not able to bring all its resources to the mainstream due to lack of investment, infrastructure and natural calamities. Nepal's economy relies heavily on agriculture and its demography shows that 31% of its population live in poverty according to the 2003-04 The World Bank Poverty Assessment report. Plainlands are hard to find and the climate is harsh during winters in the North of Nepal. Since the roads of Nepal are prone to heavy snowfall, traffic gets stuck and many parts become inaccessible during a certain time of the year.

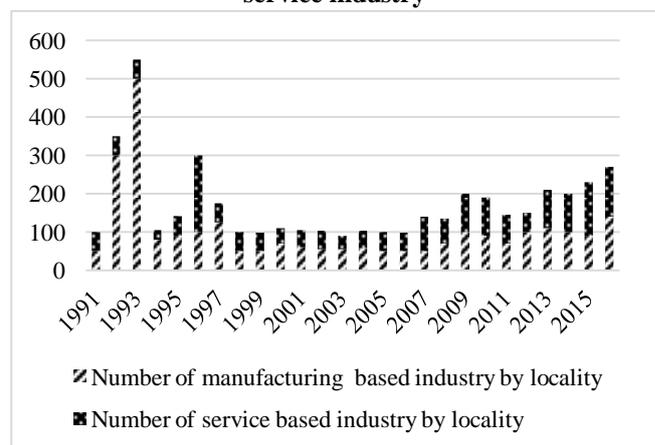
Richard Auty coined the term 'Resource Curse'. It was about the paradox of resource-rich countries having weak economic growth and development. It is attributed to the mishandling of natural resources and mismanagement of investments. Such a paradox is not universal in nature and occurs only in some countries. Such a curse has befallen Nepal.

### IV. DISCUSSION

Nepal is mainly known for exporting carpets, clothing, leather goods, jute goods, grain, herbs, tea, coffee, steel, cement, Business Processing Outsourcing, software, Information Technology, furniture and cardamoms. The

manufacturing industry in Nepal operates on the imported raw materials. This diminishes the competitive value of the exported items in the world market. Nepal ranks at 107 on the World Bank's Doing Business 2017 report compared to 99<sup>th</sup> position last year. The absence of proactive government policies is one of the reasons. Such a scenario has heightened unemployment rate to 3.20% in 2016. Nepal relies on natural resources whose prices are highly volatile in the market. Nepalese products are uncompetitive in the market. The rich-poor gap has started to grow. The formula of India replacing its manufacturing industry with service industry has gone well with Nepal too. In 2010, manufacturing industry contributed 20% towards GDP (Gross Domestic Product) of Nepal whereas service industry contributed 45%. Tourism remains the backbone of this country from the service industry point of view. But, Nepal ranked 102<sup>nd</sup> in travel and tourism competitiveness survey carried out by the World Economic Forum. There was lack of safety, infrastructure, transport connectivity, although Nepal offered price advantage for visiting tourists. Figure 1.1 shows that both manufacturing and service industries in Nepal have been inconsistent. Nepal's percentage of total employment in service industry also shows a similar picture. From a rise of 20.8% in service industry employment of Nepal in 2010, it has declined to 16.5% in 2017. The manufacturing industry too underwent a similar trend wherein in 2010, the percentage of total employment stood at 13.4% and in 2017 it is at 10.9%. Moreover, Nepal has a labour intensive economy. Such an economy is ruled by the unions who make it harder for the industrialists to thrive. The inaction of science and research, reach of education are other factors that cannot be neglected. The migration of human resources to other parts of the world would be good to raise remittances for the country but it also shows that the country has lost its productive human resources.

**Fig. 1.1: Comparison of Nepal's manufacturing and service industry**



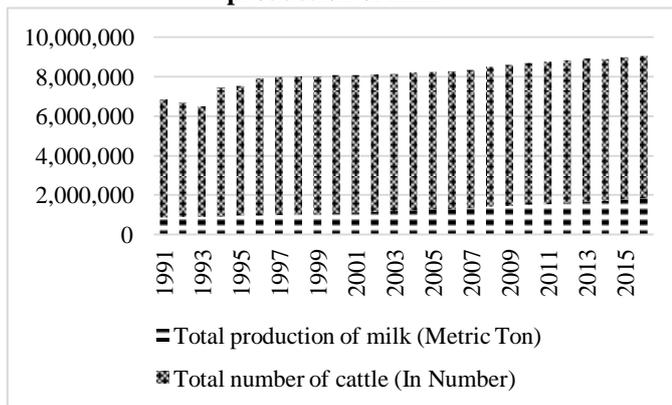
Source: <https://nepalindata.com/data/>

The total employment percentage of Nepal in agriculture stands at 72.6% in 2017. This stands as a challenge to the country as it struggles to find possible ways in which inclusion can be brought forward from this majority of citizens. Inclusion has not covered a full circle because of inherent problems in agriculture. According to IRIN (formerly Integrated Regional Information Networks), as years progress, investment rate in agriculture has declined from 3.7% in 2003 to 2.6% in 2013. The



average farm size also has decreased from 1.1 hectares in 1995 to 0.7 hectares in 2010. The human resources serving farmers are sparse (due to retirement and less staffing) and the agriculture officer-farmer ratio is uneven (the standard being 1:400 and in 2013, it was 1:11,000. Majority of the money allotted for agriculture goes for administrative costs. This has withheld innovation and technology from ushering development amongst farmers in Nepal. Livestock farming is unique in Nepal. According to Food and Agriculture Organization, the country rears yak and terai buffalo, which are distinctive. It also contributed to powering homes, adding nutrients to the soil and for transportation. Livestock farming is woven into the lives of the rural people. The contribution of livestock farming is significant because as per Central Bureau of Statistics (CBS) 2011, livestock contributes 32% towards agricultural Gross Domestic Product (GDP) and about 11.5% of total country's GDP. It is evident in figure 1.2 that though the number of cattle has varied across two decades, the production of milk has remained steady and currently stands at 18,00,000 metric tons of milk. Such a consistent growth is not found in other fields in Nepal. Production of cereals occupies 49.41% of the agricultural Gross Domestic Product (GDP) and even then, the production of cereals is found to be erratic. Numerically, it is cattle which are more in number in Nepal than any other livestock. Approximately 36% households' own cattle. IRIN (formerly Integrated Regional Information Networks) reports that Nepal has one of the highest ratios of livestock and poultry to the household in Asia with 5.8 heads of livestock and poultry per household.

**Fig. 1.2: Comparison of Nepal's number of cattle and production of milk**



Source: <https://nepalindata.com/data/>

Livestock farming is commercially carried out by only 20% industries. The rest is reared at households. Rural folks are ignorant about rearing these animals which decreases their productivity. 5,00,000 goats alone are imported from India as per the New Humanitarian. There is a huge presence of weaker breeds of livestock. Veterinary services are unavailable to 73% of rural places and that creates a quandary for rural folks according to Nepal Veterinary Council. Lands for grazing are also becoming rare due to the division of lands among family members. Improper transport facilities deny feeds and fodder from reaching these farmers. Minimum support price from the government is absent for the sale of livestock and that forces the underprivileged farmers to remain in poverty.

The earthquake of 2015, posed another challenge to the livestock industry. Many livestock were killed and this changed the consumption habits of Nepalese. Nepali times'

reports estimated that 8,000 water buffaloes, 1,50,000 chickens and 14,500 pigs and goats have died. The citizens of Nepal who used to consume livestock products every week before earthquake later turned to once a month consumption.

Drawing parallel on a country like Uruguay which is a developed economy and agrarian based. Its cattle outnumber its population (twelve million cattle in a country with three million people). Akin to Nepal, the country was affected with foot and mouth disease in 2001. The huge investment in livestock helped the country to become the number one ranking country in cattle farming. Thanks to the government investment in electronic tagging of cattle. The country was able to track, process and act upon managing the cattle. This clearly states that the road ahead is technology alone.

Livestock farming benefits the rural folks. It is an income generator for households, unlike agriculture which is a sustenance form of work for Nepalese. The economy stands to lose from a sustenance-based production. No wonder the contribution of agriculture is only 31% when compared to the tertiary sector which contributes 58% to GDP as on 2017. The budget of 2016-17 needs to be analyzed. It was seen that in 2015-16, about 3.7 billion rupees was allocated to the Ministry of Livestock Development. Currently, in the 2016-17 budget, there was 44% increase and the allocation stand at 8.4 billion rupees. The government had promised subsidized premium on insurance, breeding centres, milk processing, farming and resource centres, laboratory of international standard to provide technical service, youth self-employment programme, service delivery centres and decreased custom duty. Budget plans are commendable (due to the commercialization aspect), but only time will tell if all these were beneficial. The tone of the budget plans taken is more towards achieving self-sufficient. It is not going to produce surplus livestock products and thereby focus on exports. The various programs along with facilities call citizens to convert livestock farming from a mere sustenance to monetarily gaining exercise. We have seen that the government of Nepal has followed the recommendation of the World Bank in both letter and spirit. Among the three I's, Investment and Inclusion are in place. Infrastructure is the factor that is missing which would make Nepal to a self-sufficient economy.

The potential of Nepal as a country for livestock farming is in goat skins. It has a good reputation, particularly in Europe. Nepal is number 12 in the world with regard to leather exports. Between 1999 and 2006, Nepal has only exported 0.8 or 0.9 ton of goat skins as per Food and Agricultural Organization. Such a long stagnation is an issue to be addressed. The export products of Nepal are also dependent on livestock. The country can unlock the true potential of such export products only if they add value to livestock farming.

## V. CONCLUSION, LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

Kattel (2016) observed that farmers owning land holdings between 0.2 and 0.5 hectares are the ones who rely more on livestock farming. This means that there must be specific initiatives from the government to focus on those people whose land holding is

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more than 0.5 hectares and on landless farmers. Farmers in Nepal are found to follow mixed crop-livestock farming. Crops are cultivated for sustenance and livestock for cash. Neither of them has produced self-sufficiency or surplus. Instead, farmers having land holdings between 0.2 and 0.5 hectares can produce feed for livestock in their fields. This can help Nepal overcome the shortage of feeds for livestock. This sort of arrangement can also save Nepal from environmental concerns. Livestock is said to consume on plants that prevent soil erosion. Participation of women was less than 5% (assuming leadership position) in livestock programs and organizations (Paudel, 2009). This is an area that needs attention from the legislators. Women need inclusion in the development of livestock farming. The absence of co-operative societies and non-governmental organizations is another factor to be considered. The government can invite foreign organizations to set up such bodies instead of leaning more on foreign aids. Shelter for livestock is another aspect that needs attention. Poverty would prevent households from providing safe shelter to animals. The government can invest in this area and save many animals from catching diseases. This is in relation to the fact that livestock owners in Nepal are poorer than those who don't own livestock. The above-mentioned points are problems that can be solved in a shorter time. Food and Agriculture Organization gives a long-term solution to Nepalese livestock farming- establishing free markets for livestock products, develop complementary research, infrastructure and animal health programs. These are the remedies prescribed for sustainable livestock production in Nepal. At the end of the day, the challenge lies in converting subsistence economy of Nepal into a robust commercial one. The study focuses on livestock as a whole. Cattle and buffalos are the most common livestock animals and pig farming is new to this country. The study has not taken the potential of each animal. Primary data has not been used and hence a ground level essence would be missing. Researchers can have a further study on the impact of government policies on livestock farming.

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