



(RESEARCH ARTICLE)



Empowering economic growth: A provincial case study of Nepal through the imperative role of agricultural commodity markets

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Abstract

Nepal is extremely diverse and located between China and India. Most of the essential requirements are managed through import. These import and local agriculture production meet the demands of people and helps in economy. This study is designed to analyze the role of local agricultural products in the economy of Nepal. A mixed research method was applied and three vital economic corridor-based Provinces were chosen for this study. The interview schedule through Questions, KII and FGD was planned and conducted during August-November 2023.

The data further illustrated that the local production of maize, paddy, wheat and millets is seasonal and insufficient for a year and lasts only for a few months from own field, and relies on markets imported through India and China. Nepalese markets are following cash-based transactions and the Government monitoring is challenging to control and monitoring the markets due to the open border. The daily consumable agricultural products such as vegetables, legumes, meats, fruits have limited production and dependent on Indian and Chinese markets. However, local production fulfills the demands of farmers and citizens for few months, and that value contribution is huge in the Nepalese economy. The local production is meeting the requirements of the people for few seasons. Due to diversity demands differ region-wise. The local production enhancement is the ultimate way out, effort from all sector for production is required and comprehensive study targeting market mechanism are suggested.

Keyword: Agricultural Production; Diversity; Market; Economy; Import

1. Introduction

A report by Ministry of agriculture and Livestock Development, MoALD (2016) in Nepal stated that the agriculture sector contributes more than one third to the gross domestic product of the country and nearly two thirds of the population depend on this sector for their livelihood and employment, this sector can be considered as the main component of the Nepalese economy.

Various review added that the Interim Constitution of Nepal 2007 space to implement agriculture and right to food and various agricultural acts, From the food security perspectives it has been seen that lack of production and various agricultural challenges such as lack of inputs, labor support and many other factors are the prime reason of low production or limited production in Nepal. In Bagamati province, it was found that the lack of production due to various reasons bounded people to depends on Market and supply system is the ultimately way out to meet the demands of locals (Chhetri et al., 2021).

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Review shows that the growing trend of market food prices, migration, shortage of labor system in markets and lack of various market-based insufficiency across the world is the most challenging situation and, in this way, substantial agriculture is challenging and critical to meet the food security worldwide. Hence local production is the ultimate way out to manage the local economy worldwide, Nepal has similar situation where lack of production and political stability hassle markets system and drop in production disturbed and dependent to import mechanism. (MoALD, 2016).

Agriculture plays a large role in Nepal's economy, which accounts for one-third of GDP, absorbs two-thirds of the labor force, and is the main source of livelihood for the majority of the population. It is the primary occupation for the vast majority of the economically active smallholders and the poorest households. Rapid population growth and increasing urbanization in Nepal has put increasing demands on agricultural production. The government, donors, and I/NGOs have spent significant resources on trying to meet this demand by increasing agricultural production. However, the capacity of Nepalese farmers to become productive commercial farmers is still limited. Though the agriculture sector in Nepal has improved over the last decade, it has still not reached its potential when compared with the agriculture output of its neighboring countries. (GC & Ralph, 2020).

Nepal is a least-developed country with a slow-growing economy. Trade has been recognized as an engine of growth at the policy level, and over the last two decades' policy measures have been taken to integrate the Nepali economy into the global economy, mainly through economic liberalization. However, export performance has been weak, particularly so in the last one decade. Rising remittances associated with increasing outmigration of workers have helped maintain external sector balance as well as contributed to poverty alleviation, but the absence of a strong tradable sector casts a shadow over Nepal's development prospects. (Kharel, 2012).

Not only has the size of exports been low, there is also a discernible shift in the composition of exports towards primary products, especially agriculture and forest, from manufactured goods, although the latter still account for well over two thirds of exports. Partly motivated by potential high and immediate socio-economic impacts (notably, employment creation and poverty alleviation) of exports associated with the agriculture and forestry sector in a country where agriculture is by far the largest employer, and partly in view of the export potential of such products, the Government of Nepal's latest trade strategy lays emphasis on the promotion of agro-forest-food exports. (Kharel, 2012)

Thus, while Nepal is not a commodity-dependent country (in terms of exports) unlike many LDCs, the importance of commodities (mainly agriculture and forest products) in its export basket is increasing, and the current government policy and business climate are likely to encourage it

According to Nepal Planning Commission, about 60 percent of the households (HHs) own 0.3 to 1.1 ha. of land and these small farmers are not able to develop farm woodlot separate from their agricultural production. AF systems are their only useful option to meet the needs of forest and agricultural produces (Thapa et al., 1989; Chhetri et al., 2018).

The global economy is flying at "stall speed", with projected growth in 2023 of 2.4 per cent, meeting the conventional criteria for a global recession. The entire global economy, except East and Central Asia, has slowed since 2022. On a brighter note, inflation, while still above pre-pandemic years, is coming under control in many parts of the world. The banking crises that erupted in March 2023 did not lead to financial contagion, and commodity prices are down from their peaks in 2022. A small improvement in global growth is expected in 2024, contingent on the recovery in the euro area and other leading economies avoiding adverse shocks (UNCTAD, 2017)

Commodity-dependent developing countries (CDDCs), defined as countries that derive at least 60 per cent of their total merchandise export revenues from commodity exports, have long over-relied on the extraction and export of natural resources to support their economies. While this concentration on the commodity sector has brought revenues to these countries, it has also created numerous challenges and vulnerabilities. These include macroeconomic instability, delayed industrialization or deindustrialization, the long-term declining trend of prices of exported primary commodities relative to the prices of imported manufactured goods,¹ and volatility of export revenue caused by commodity price fluctuations

Many CDDCs are among the most vulnerable to the impacts of climate change, such as extreme weather events, rising sea levels, and droughts. The COVID-19 pandemic and the war in Ukraine have further exposed CDDCs' vulnerabilities and highlighted the urgent need for these countries to diversify their economies. (UNCTAD, 2023).

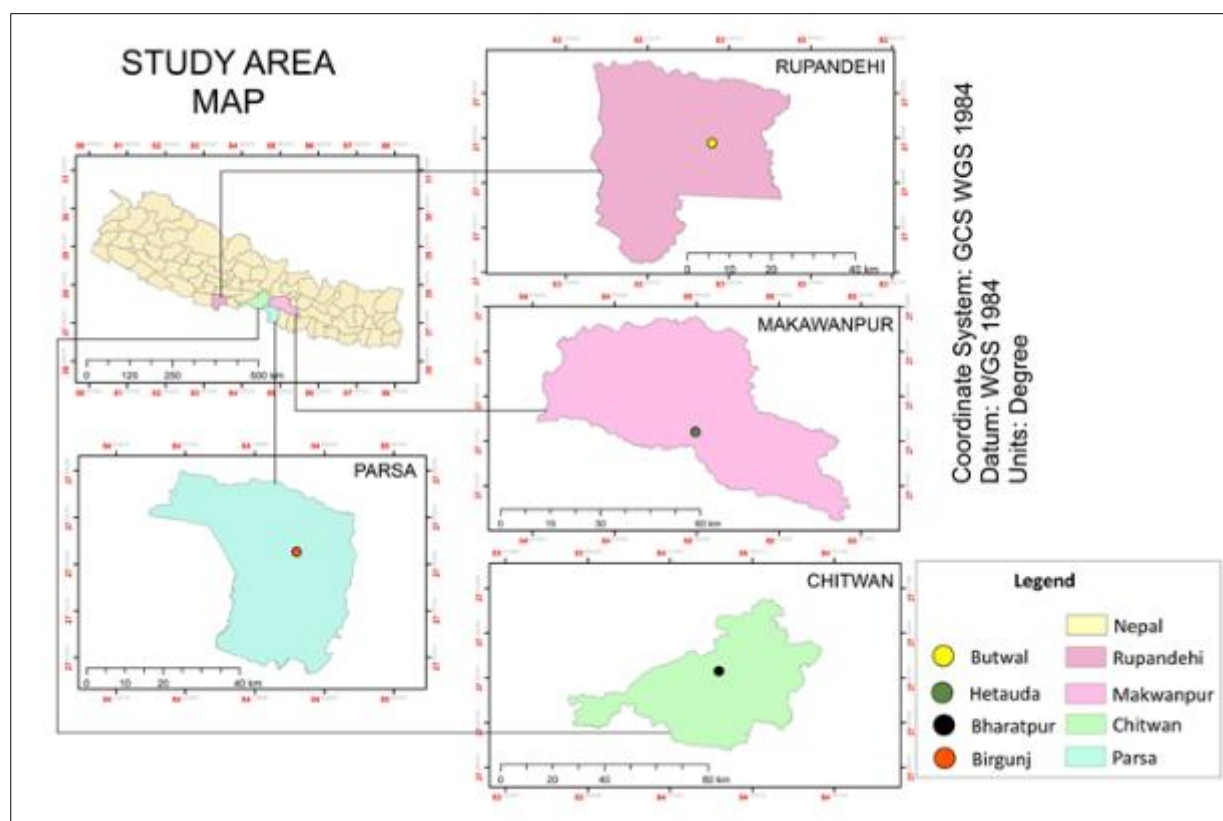
A study of FNCCI shows that Nepal commodity supply sustaining due to continue supply of various commodities from India and China. Commodities such as rice, Pulses, oilseeds, and major food staples almost covering 50 % to Nepal as a

requirement. Nepal sufficiency trend towards livestock production mainly milk is sufficient, but many demands is supplied through neighbor countries (FNCCI, 2021).

Hence, various review suggest detail analysis that describe the agricultural role of local production into the economy of Nepalese society and a comprehensive market study is the best approach to deal with this objective.

2. Methods

This study is designed in a mixed method approach where Parsa-Birgunj, Makwanpur-Hetauda, Chitwan-Narayanghat and Rupandehi-Butwal district (*See figure-1*) Was purposively chosen to conduct the traders' interviews. A sum of total 32 traders and 32 farmers (8 traders and 8 farmers in each district), so all together a sum of 64 responses was collected from the four different located key district markets. Some FGD and KII 4 sample from each market) were conducted in between August to November 2023.



(Source: -Self Prepared map through GIS Arc View, 2024)

Figure 1 Study area map of Nepal

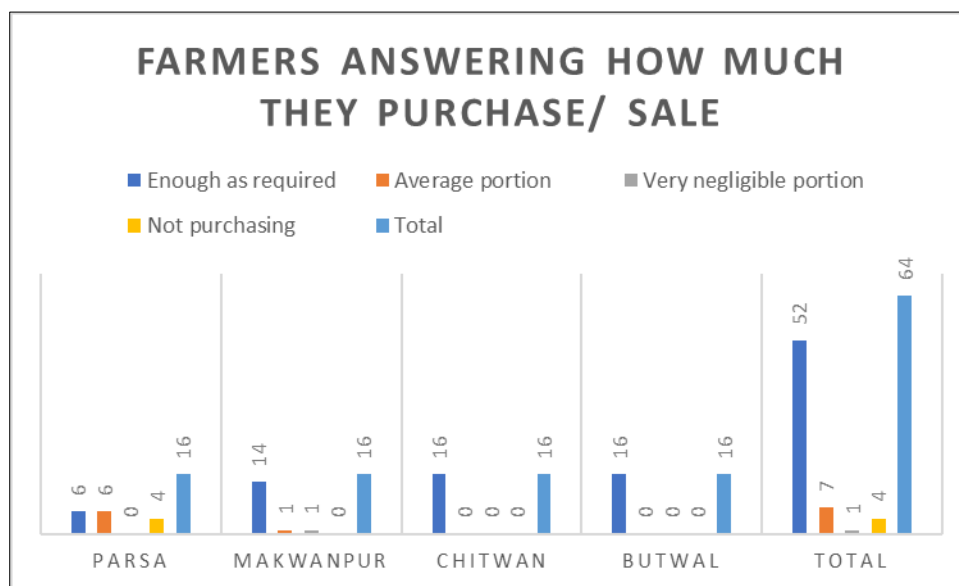
For this study, Parsa, Makwanpur, Chitwan and Rupandehi district was chosen for the study and interview schedule in the district headquarter of the district. Birgunj, Hetauda, Narayanghat and Butwal are the district markets where interview conducted and such markets are representative samples of Nepal with high transactions of agricultural commodities. The market price collected from the same market targeting major traders. The trader's selection for the data collection taken using a consultation method to consult with District Chamber of Commerce and industries and after listing the traders name and location, a random sample used and selected traders for the interview.

The KII were the Chamber of Commerce and industries, Trade Industries associations and Farmers associations were the main KII whereas the FGD were the Traders and local buyers of each market where we dis the Survey.

The data further collected in excel through self-structured (Annex-1) Questions that interpreted through SPSS and MS-Excel and the analysis done accordingly.

3. Results and discussion

In this result and discussion part, the result of this study further explains through the tables and various Interview through FGD and KII, the detail is mentioned wherewith, some of them is data taken from the secondary sources will add to make a comprehensive knowledge for the readers through discussion mode; -



(Source: - Field survey, 2023)

Figure 2 Farmers answering about paddy how much they sale and purchase from local markets

A set of question (annex-1) was prepared and asked with farmers and traders in the study area, on a question of Paddy (sell and Purchase) the trend (Figure-2) shows that the sale and purchase record is nearly same for Makwanpur, Chitwan and Rupandehi district and little different in Parsa as the Parsa-Birgunj market is largest market of Nepal near to India boarder and considered as the largest boarder for India and Nepal.

Local traders added that-

The commodity from the agents who are delivering at the door steps, such bookings is depending on a price including transportation cost and this trend runs when there are some demands raised and some essential goods required so the booking agent provide such support and delivered at the door steps.

In Birgunj market-Parsa district is almost covering the most of the nearby district of Nepal because this is the main market hob where all commodities are available because opposite side of India boarder is easily accessible to the traders and they ordered food-imported and supplied to any side of the market at Nepal.

Farmers added that they sale their products to the local market to the mills and local shops who took their product and paid accordingly, the farm gate price of paddy remains 20 to 30 Rs/ kg of Paddy, Farmers added that due to Indian boarder the farm gate price is challenging because cheap commodities are easily available and market is almost under the hand of Indian traders hence, Nepalese traders won't take interest in Nepalese farmers. But somehow the local production supports Birgunj and local markets to continue for 3-5 months but after stock get over, India supply is the ultimate way out.

Federation of Nepal Chamber have published a similar data on annual book that farmers and trades are diverted on modern livelihood mode and earning through business and local entrepreneurship, local production is challenging now days through agriculture production (World Bank, 2022)

KII and FGD Comments from AKC, Farmers, Ministries and FNCCI:

Farmers production of paddy remains for some seasons and earned from the own production but after completion of stock they also depends on import of rice from India.

Table 1 Portion of Maize coming from Import

District	Enough as required	Average portion	Very negligible portion	Not purchasing	Total
Parsa	6	5	3	2	16
Makwanpur	7	3	3	2	16
Chitwan	5	2	7	2	16
Butwal	5	4	3	3	16
Total	23	14	18	9	64

Source: - Field survey, 2023

Survey data from above tables-1 shows total sample 64 (32 traders and 32 farmers) response average enough as required of maize 35.93 percent, average portion 21.87 percent, very negligible portion 28.12percent and not purchasing 14.06 percent. This table shows maize imports are decreasing sample area so that its impact economic development.

KII and FGD added that Maize is the most useful and traditional cereal for Nepal mainly to the people living in rural areas, these grains used for self-eating, cattle feeds, poultry preparation and for the future seed stock, maize alternatively is planting in all types of land and depends on rainfed mostly and small portion of investment is enough to grow rather than a paddy cultivation required a high care and investment through mechanizations.

Hence, maize is harvesting and less portion is consumed at house levels and most of it used in some domestic animals and other purposes, hence this is less imported and almost sufficient for the most of the months in Nepal.

Table 2 Grains stock of the Market remains

District	For more than 3 months	For months 2	For more than 1 months	Less than one months	Total
Parsa	5	3	3	5	16
Makwanpur	4	8	3	0	16
Chitwan	3	6	5	2	16
Butwal	6	7	3	0	16
Total	18	24	15	7	64

(Source: - Field survey, 2023)

The response of traders shows (Table-2) that the market stock trained depends on the season of the market. Data shows that a stock of cereal and essential daily usable foods remains for 2 months (24 responses), whereas more than 3 months stock remains opted by some 18 surveyed respondents in the study are of 4 major markets of Nepal (Birgunj, Hetauda, Narayanghat, and Butwal) respectively. Some traders/ farmers also argued that less than one month stock remain for some 7 respondents those are such people who have a lack of storage with high transaction rate on the markets.

As mentioned about the season, the Farmers and Agriculture Knowledge Center-AKC Officials added that the demands in market usually seen during festival season where the consumption of essential goods got high and such time market extremely accelerates. During harvesting season of paddy and Maize the market price automatically stabled due to the local harvesting. But at the ending of local production this get high as all commodities imported from the nearby neighbor's market.

Government official added during KII interview that market does not have a trend of stocking food more than 3 month due to poor logistic system as well as lack of infrastructure and cash-based market transfer, hence all agricultural commodities sold within a period of 1-3 months.

Local Production of cereal helps in food security and manage livelihoods, farmers added that with in a land of 5 kattha from own they earn nearby 3-5 lakhs per year from the production of Paddy, legumes, pulses, vegetables and fruits in seasons.

Table 3 Vegetables stock of the Market remains

District	For more than 3 months	For months 2	For more than 1 months	Less than one months	Total
Parsa	12	0	³	0	16
Makwanpur	7	5	³	0	16
Chitwan	2	6	8	0	16
Butwal	5	2	9	0	16
Total	26	13	25	0	64

Source: - Field survey, 2023

In this section, the surveyed shows (Table-3) that the stock of the market remains for more than 3 months for a majority of respondents (26), And some 25 people answered that more than 1 months. It means the farmers of the local area do sale and purchase vegetables which last for 1-3 months.

KII from Chamber of commerce and Industries of the respective district added that local production from Parsa, Hetauda-Palung, Chitwan and other part of the district where commercial vegetable farming does usually sell in the surveyed market because this is the market where various types of buyers usually come and buy.

Local farmer confidently added that local vegetable production helps in earning and support country economy as well as also support to the local to get a fresh and local vegetables from the own land, but this is only during a season and during off seasons like rainy and other season Indian and Chinese market support sustained and supported Nepalese market for vegetables, fruits and so on.

Table 4 Legumes stock of the Market remains

District	For more than 3 months	For months 2	For more than 1 months	Less than one months	Total
Parsa	1	1	10	3	16
Makwanpur	³	2	3	7	16
Chitwan	5	1	6	3	16
Butwal	³	7	5	0	16
Total	14	11	24	15	64

Source: - Field survey, 2023

Legumes recorded limited from the Nepalese land and only used by the farmers for the own purpose. But in many areas of the surveyed district legumes produced and sold in nearby markets and due to the low production usually can survive market more than one month stated by the most of the farmers during interview.

Table-4illustrating that the majority of people (24) have the similar phenomena of limits tock for the months as this is usually produced in the small portions and last for the few months in the local markets.

Oilseed has the similar cases of limited and seasonal production during winter seasons and remains for 2months (Table-5) as the majority of respondents agreed on this.

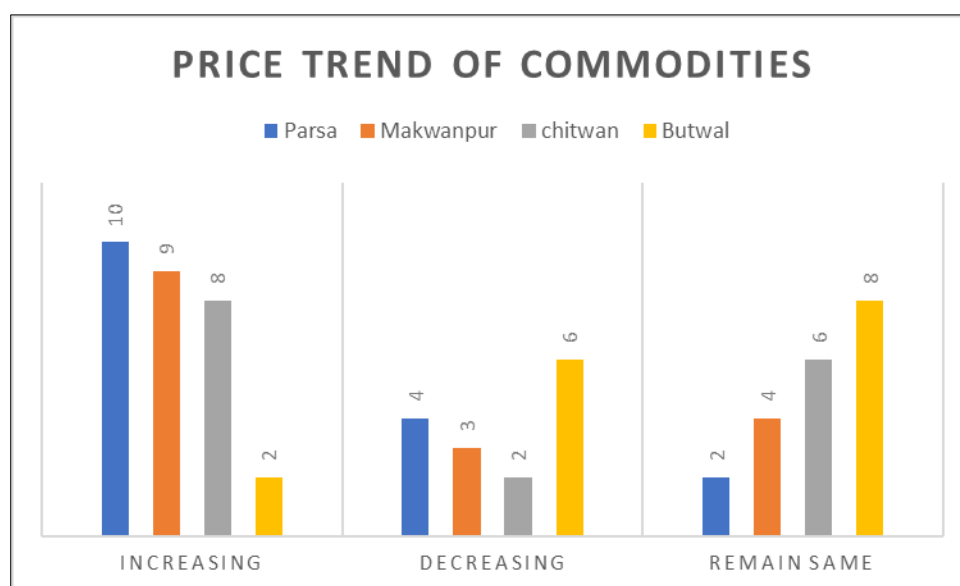
FGD added that oilseeds (soyabean, mustard and other) farming is higher in Parsa, Chitwan and Rupandehi and such production is sold just after the harvesting is done. Very few portions of production used to sell in markets.

Traders added that packet oils are most in used and local oilseeds are limited in the Nepalese farm, hence this is limited in stock in markets.

Table 5 Oilseeds stock of the Market remains

District	For more than 3 months	For months 2	For more than 1 months	Less than one months	Total
Parsa	5	5	6	0	16
Makwanpur	5	11	0	0	16
Chitwan	7	7	2	0	16
Butwal	2	2	12	0	16
Total	19	25	20	0	64

(Source: - Field survey, 2023)



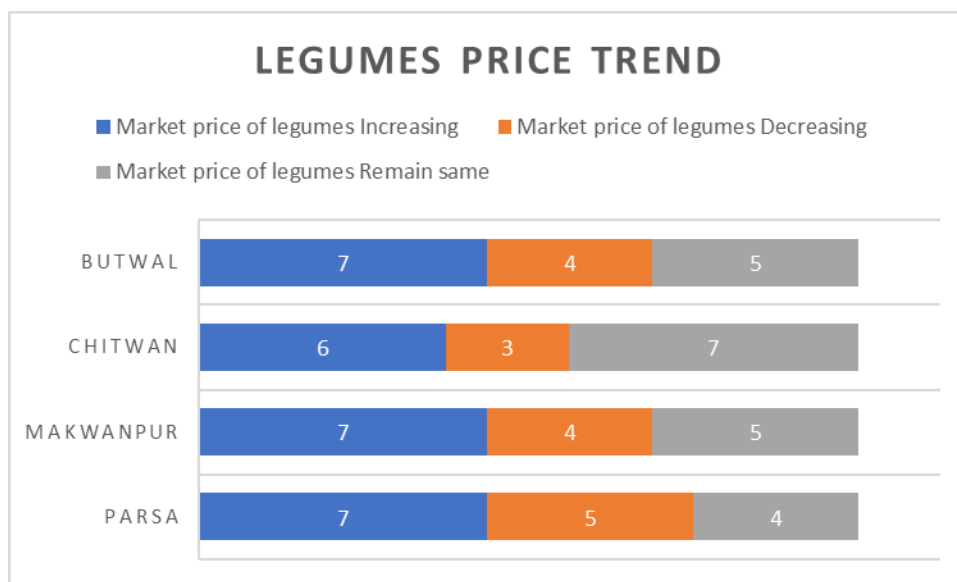
(Source: - Field survey, 2023)

Figure 3 Market price trend of the Grains

The market price trend of commodities (figure-3) shows an increasing trend in Parsa, Makwanpur and Chitwan district where as decreasing in Butwal (Rupandehi) which is also a border area of Nepal and commodities from illegal mode has not impacted the areas. The situation of Remain same and decreasing is less than the responses of increasing trend.

The market price plays a significant role for farmers and buyers, high market price always benefits traders and farmers who receive sufficient price of their production and profits both, on other hand, lack of market price always burdens to traders and farmers as low farm price heavily affected farmers investment difficult managing domestic needs. National economic also depends on the sell and management of local production and its price sufficiently rotating in markets. This way overall economy runs.

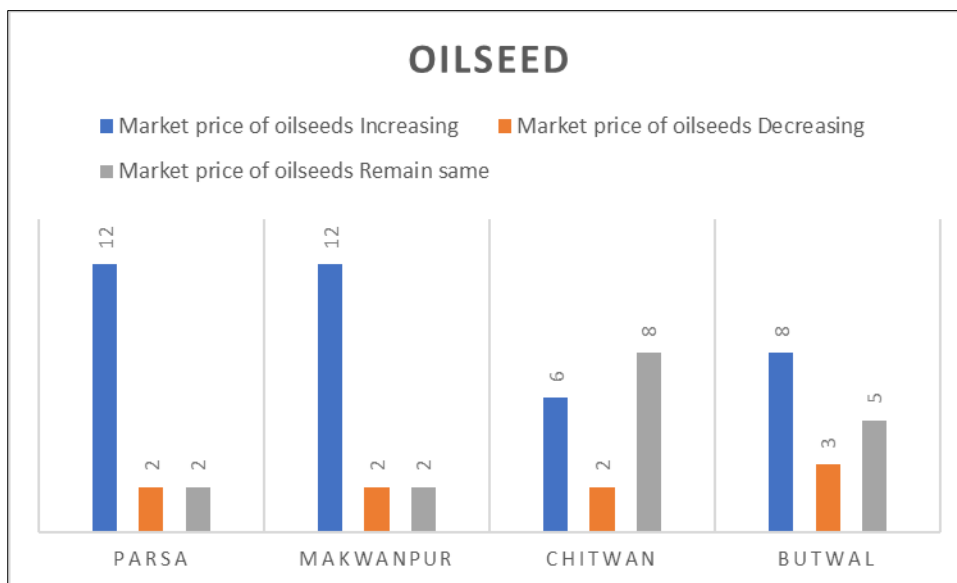
Professional added that market price is most unstable and always changes from time to time and case by case from this frequency the country economy and agriculture production always hard hit the economy.



(Source: - Field survey, 2023)

Figure 4 Market price of the Legumes

Figure-4 legumes price trend reported increasing as local production of pulses, beans and nuts are limited and farmers produced for self-consumption and very few commercial farmers in the study area sell in local markets.



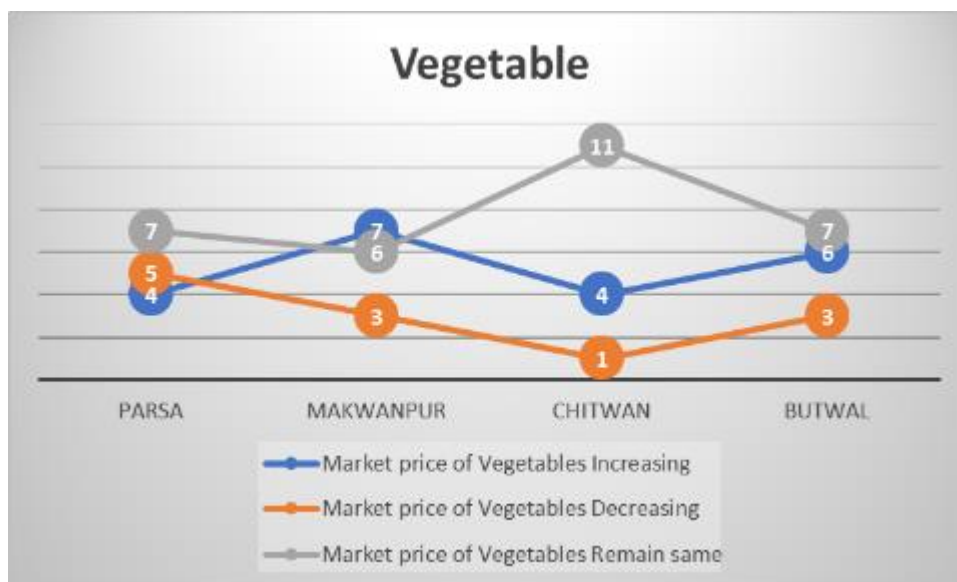
(Source: - Field survey, 2023)

Figure 5 Market price of the Oilseeds

In figure-5, oilseeds-soya, mustard and sunflower oil is also limited and mostly produced in winter and lack of production bounded people to depends on Indian supply system, However the local production of oilseeds helps farmers to use for self-use and some portion of production usually sold in local oil mills and markets who further packed and sold in market.

Farmers added that mustard and soya price per liters stands in between 250 to 300 Rs/ Ltr

KII added that mustard, sunflower and soyabean is mostly using in Nepalese kitchen and local production sufficient for some months and most of the time supply come through India.



(Source: - Field survey, 2023)

Figure 6 Market price of the Vegetables

The vegetable production in Nepal playing a magnificent role in the economy. From the food security perspective this is mostly used in rural-urban sectors, the overall production and market price is significantly stable and in season this is frequently changing price from up to down line.

Figure-5 shows that increasing trend in Makwanpur and Butwan areas because in both areas commercial markets and farmers usually farming on and off season farming of vegetables hence the demands of vegetables always maintained a all-time production mechanism in such areas and this is benefited through farm gate price, this is the reason that in such areas farmers always have a good business in vegetable farming.

KII and FGD added that Makwanpur is hills and fit for seasonal and of seasonal vegetables, all rest study area is terai and weather is little hotter than Makawanpur district. Hence, cereal production is bumper harvesting in terai due to large land size, irrigation and use of mechanization.

All above tables and figure illustrating that the local production (cereal, vegetables, oilseeds, legumes) is playing role in the economy of Nepalese market through market system and this is generating opportunities in diverse situation, the income and food security is no doubt supporting but for some month and due to lack of own production due to various socio-economic and cultural problem, import is the ultimate way and farmers have no other options to grow, eat and sell in the local markets and but during insufficiency.

4. Conclusion

The study concluded as the Nepalese local production of Cereals (paddy, wheat, maize and Millets) are sufficiently available for some season and large portion of cereal and other crops imported from Chinese and Indian markets. Similarly, legumes, oilseeds, and Vegetables have played a significant role in the local economy as farmers growing such products and keeping family feeding first and then selling to markets where other buyers are privileged to get it. The varieties and choices of the farming system is limited due to the constraints of various agricultural, social and economic reason as a result the lack of production and high demands throughout years does not meet the demands and import mechanism activated and fulfills the demands.

The substantial farming system seasonally no doubt helps in establishing market system and empowered many social institutions. Although the supply system through import mechanism meeting the people demands.

A wider range of sample suggesting to analyzed the market functionality mechanism in the present situation. Production increase is the ultimate way out to meet the demands and food diversity is essential to change the dietary habits as rice is essential for many castes and regions but alternatively many other foods could be an alternative to manage food security.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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ANNEX-1

SL N	Questions	Response
1	Do you buy Local Paddy from the farmers	1. Yes, 2.No
2	If Yes, how much you purchases	1. enough as Required2. average portion, 3. Very negligible portion, 4. Not purchasing
3	Do you buy Local Maize from the farmers	1. Yes, 2.No
4	If Yes, How much you purchases	1. enough as Required2. average portion, 3. Very negligible portion, 4. Not purchasing
5	Do you buy Local Maize from the farmers	1. Yes, 2.No

6	If Yes, How much you purchases	1. enough as Required2. average portion, 3. Very negligible portion, 4. Not purchasing
7	How much portion of paddy coming from Import	1. enough as Required2. average portion, 3. Very negligible portion, 4. Not purchasing
8	How much portion of maize coming from Import	1. enough as Required2. average portion, 3. Very negligible portion, 4. Not purchasing
9	How much portion of Wheat coming from Import	1. enough as Required2. average portion, 3. Very negligible portion, 4. Not purchasing
10	Commodity stock of the market remains for	1 for more than 3 Months, 2) for 2 months, 3) for more than 1 months, 4) less than one Months
11	Vegetables stock of the market remains for	1 for more than 3 Months, 2) for 2 months, 3) for more than 1 months, 4) less than one Months
12	Fruit stock of the market remains for	1 for more than 3 Months, 2) for 2 months, 3) for more than 1 months, 4) less than one Months
13	Meat stock of the market remains for	1 for more than 3 Months, 2) for 2 months, 3) for more than 1 months, 4) less than one Months
14	Legumes stock of the market remains for	1 for more than 3 Months, 2) for 2 months, 3) for more than 1 months, 4) less than one Months
15	Market price of Cereal	1) increasing, 2) decreasing, 3) remain same
16	Market price of legumes	1) increasing, 2) decreasing, 3) remain same
17	Market price of fruits	1) increasing, 2) decreasing, 3) remain same
18	Market price of Vegetables	1) increasing, 2) decreasing, 3) remain same
19	Farm gate price of grains	1) increasing, 2) decreasing, 3) remain same
20	Farm gate price of Vegetables	1) increasing, 2) decreasing, 3) remain same
21	Farm gate price of Legumes	1) increasing, 2) decreasing, 3) remain same
22	Farm gate price of Fruits	1) increasing, 2) decreasing, 3) remain same