1. INTRODUCTION

Coffee is one of the most popular beverages in the world prepared from the roasted seeds of an evergreen plant of the genus Coffea. The two most important species of coffee are *Coffea arabica* (Arabica coffee) - which accounts for over 60 percent of world production - and *Coffea canephora* (Robusta coffee) (MoALD, 2014). Coffee plants are cultivated in more than 70 countries, mainly in equatorial Latin America, Southeast Asia, and Africa. Brewed coffee has stimulating effect on humans because of its caffeine content. Coffee being one of the emerging crops with high potential to export and earn foreign currency, it has been given due importance by the Government of Nepal. The National Tea and Coffee Development Board is mainly responsible for the promotion of coffee from production to its end consumption in the country. Coffee is one of the highly traded commodities in the world. Among the different agricultural goods produced in and exported from Nepal, the competitiveness of coffee has been quickly increased in recent years, thus contributing to the improvement of rural livelihoods. Among different agricultural goods produced in and exported from Nepal, coffee being one of the emerging crops with high potential to export and earn foreign currency, it has been given due importance by the Government of Nepal. The competitiveness of coffee has quickly increased in recent years, thus contributing to the improvement of rural livelihoods. This study was based on review of literature and analysis of secondary data/information. Statistical tools such as correlation analysis was also used to analyze data. According to the official records coffee production area has expanded from around 135.7 ha in fiscal year 1994/95 to 3052 ha in 2020/21 and the production has increased from 12.95 Mt. of dry cherry to 315 Mt. of green beans during the same period. Nepal’s coffee subsector is characterized by low productivity, low production and poor quality. Inter alia, it was mainly due to incidence of insect pests, production done by smallholder farmers in a widely scattered area creating problems in quality control and collection leading to higher cost. The good price, high demand and overwhelmingly organic system of production are the encouraging factors but the formidable challenge remains on fighting with white stem borer and providing incentives for small holder farmers throughout the relatively long gestation period of coffee crop. Apart from low production level, organic certification and quarantine requirements pose serious challenges to export. Coffee produced in Nepal is Organic & Fair-trade and is readily accepted as a Specialty Coffee in specific international markets.
there are ever increasing numbers of actors involved, directly or indirectly, in its production, processing and trade. The farmers are mostly organized in producer groups and cooperatives, Nepal Coffee Producers’ Association (NCPA) and Central Coffee Cooperative Union (CCCUUL) being the apex farmers’ organizations.

The self-pollinating Coffee Arabica is a highly acclaimed species of the coffee and entire coffee of Nepal belongs to this species. The agro-climate of mid-hills is highly suitable for the farming of this high-value plant thereby contributing for livelihoods, income generation and economic growth. The land that could be available for coffee farming lies between the altitudes of 800 meter and 1600 meter above mean sea level in Nepal and based on which around 1.19 million ha land area is potential for coffee production in the country. The productivity of coffee can be increased up to 1500 kg/ha through proper management, adequate shading and manuring practices. So, there is a huge opportunity for production of high grown, organic specialty coffee in Nepal. It creates employment not only in the farms but also in pulping centers, coffee industries and café houses. Additionally, it can enjoy duty free access for coffee beans under trade preferences for LDCs in all the major coffee importing countries. In the coffee value chain, the sector faces numerous challenges resulting in low productivity, low production and even poor quality. Presently, coffee cultivation is marked by sporadic production with farming done at small-sized lands that creates problems in quality control, coffee collection and prices. Farmers face a knowledge gap on improved and organic ways of plantation, orchard management, sanitation and harvesting. The incidence of disease and pests on the other hand, is believed to destroy around 20% of Nepal’s coffee plants annually. Nepalese coffee is by default organic but not able to export all the product as organic because of the complicated certification process. Therefore, with this background this study is focused on the assessment of production and marketing aspects of coffee sub-sector in Nepal, with following specific objectives:

- assess the production status of coffee in Nepal; and
- appraise the export, import and business position of coffee in Nepal.

2. METHODOLOGY

This paper is primarily based on the review of literatures, secondary data published on different government publications, statistical reports and journal articles. Specifically, the source of data is Trade and Export Promotion Center, Nepal, Department of Customs, Nepal, Economic Survey, Central Bureau of Statistics (CBS), Statistical Information on Nepalese Agriculture and other publications. The growth rates, percentage analysis, averages and qualitative methods have been used in statistical analysis. Most of the studies have used time series data to examine the relationship between different variables.

3. RESULTS AND DISCUSSION

3.1 Coffee production in Nepal

Among the different agricultural goods produced in and exported from Nepal, the competitiveness of coffee has quickly increased in recent years, thus contributing to the improvement of rural livelihoods. According to the official records, coffee production area has expanded from around 135.7 ha in fiscal year 1994/95 to 3052 ha in 2020/21 and the production has increased from 12.95 Mt. of dry cherry to 315 Mt. of green beans (equivalent to 394 Mt of dry parchment) during the same period of time (Figure-1). In 2001/02, coffee production reached a triple figure for the first time registering coffee output of 139.2 Mt. Its overall production was maximum (530 Mt. of green bean) for fiscal year 2018/19. However, the production has been found reduced to 297 Mt. of green beans in fiscal year 2019/20, a sign that does not indicate well to the coffee sector of Nepal. Notwithstanding the official figures of previous years, area under coffee has also shown a slight decrease for fiscal year 2019/20, presumably due to the deterrence of farmers from catastrophic insect, the white stem borer (Xylotrechus quadripes) among others (CBS, 2019). The existing 3052 hectare of land under coffee barely makes 0.26% of the area of the potential coffee growing areas. According to Commercial Coffee Survey 2018/19, 16% of the coffee farmers cultivate cooffees at less than a ropani land area while 71% farm at farm area spread at 1-5 ropani land area (CBS. 2019). The production of 315 Mt. green beans would add approximately NRs. 412 million to the economy at a prevailing market rate, directly providing thousands of employments throughout the value chain. Gulmi, Palpa, Arghakhanchi, Lalitpur, Tanahu, Kavre, Sindhupalchok, Lamjung, Kaski, Gorkha, Syangja, Parbat and Baglung are the major coffee producing districts in the country. Among them, Syangja, is the leading producer in terms of plantation area (311 ha) and Sindhupalcock is the leading district in terms of volume of coffee production (19.6 Mt.) in FY 2020/21. More than 31,340 households are involved in
coffee farming in altogether 44 districts (MoALD, 2022). The prevalence of coffee farmer groups, associations and cooperatives have paved a way to assert themselves on policy lobbying, technology dissemination and collective marketing. The acreage of coffee per household is rather small and needs strong incentive to them to amplify their acreage. These developments led to the introduction of Nepal’s first coffee policy in 2004. Organic certification started a year later, and ‘Nepal Coffee’ logo was registered in the Department of Industry in 2010.

The coefficient of determination (R² = 0.968) for the coffee plantation area in Nepal shows that there is a strong positive correlation between government’s efforts, policies/programs on coffee promotion and area expansion in coffee subsector in Nepal (Figure 2).

![Figure 1. Plantation area and production trend of coffee in Nepal](source: Coffee Database in Nepal, MoALD, 2014)

However, the production of coffee shows the greater variability over the periods. There are several factors affecting national coffee production such as incidence of disease & pests, market price, brand value, certification, technical knowhow among farmers etc. In spite of these challenges, the annual average production of the coffee for the period of 27 years (1994/95 to 2020/21) is 286.16 Mt. which is good. The coefficient of determination (R² = 0.745) for the coffee crop production in Nepal shows that there is a positive correlation between agriculture policies/programs and national production of coffee in Nepal (Figure 2). Therefore, it can be interpreted that the government policies, programs and extension approaches that were adopted in the past for promotion of coffee subsector had positively contributed to increase the area, production and productivity of coffee in Nepal.
In the coffee value chain, the sector faces numerous challenges resulting in low productivity, low production and even poor quality in Nepal. Specifically, coffee cultivation is marked by sporadic production with farming done at small-sized lands that creates problems in quality control, coffee collection and prices. Reason behind low production and productivity level is farmers’ knowledge gap and reliance on traditional farming tools and techniques for crop production owing to sophisticated modern production and processing technology. In Nepal, selective hand picking of fully ripen cherries is done and pulped right after harvesting with mini hand pulper (wet processing) with necessary additional procedures. However, for domestic and home consumption dry processing method is also adopted where cherries are harvested and dried in sun at the farm level. Farmers face a knowledge gap on improved and organic ways of plantation, orchard management, sanitation and harvesting, which means that training farmers should sit at the top of coffee development strategy. For instance, farmers tend to sell immature beans without grading and standard postharvest practices. These bad practices at the farm level affect the final quality of the coffee. Unlike dominant producers of coffee in the world, Nepal’s coffee sector is far below in terms of mechanization. Farmers still rely on traditional tools and techniques for grading, sorting and processing. Farmers, including coffee processors, lack access to proper, appropriate or standard washing and size grading machines for cherries before pulping, appropriate pulping machines and proper parchment drying systems or techniques, appropriate mechanical process for sorting, hulling and size grading of parchments and mechanical devices to measure the moisture content of coffee beans. In addition, there is inadequate postharvest handling including storage, transportation, packing and packaging, and the problem of lack of modern and economic irrigation systems. Pest and disease, on the other hand, is believed to destroy around 20% of Nepal’s coffee plants annually. Coffee leaf rust disease (Hemileia vastatrix) and white stem borer (Xylostachyus quadripes) are some of the recurring challenges to coffee plantations, which leave farmers with little choice – either destroy or replant.

3.2 Export and import of coffee

3.2.1 Export of coffee from Nepal

Nepal Trade Integration Strategy 2016 (NTIS 2016) has identified Nepali coffee, popularly known as Himalayan beans, as one of the nine products having high export potential. Nepali coffee is exclusively Arabica variety and further qualifies as a specialty coffee in specific markets for its...
distinct aroma, production outside the traditional tropical zone in the highlands, community-based production and organic content. Arabica variety accounts for 70% of the global coffee trade. The idea of serving Nepali highland coffee beans to domestic and foreign markets has found strong reception from established and new entrepreneurs leading to rise in Nepali coffee brands, cafes, and suppliers. Although a small player in the world coffee market, Nepal’s mountain-based green bean is a high price, niche market product, which presents a new but a substantial avenue for export earnings. But as the global market experienced changes with shifts in consumer preferences in terms of quality, taste and varieties, especially towards specialty coffee, Nepal’s potential to cater to a niche segment that loves specialty coffee also started becoming more evident. Organic certification started a year later, and ‘Nepal Coffee’ logo was registered in the Department of Industry in 2010. The collective trademark ‘Nepal Coffee’ is so far registered in the EU and across seven more markets (South Korea, Singapore, Japan, Norway, Switzerland, New Zealand and Hong Kong). The branding move was introduced to establish Nepal coffee brand in the global market, discourage the export of inferior coffee and gain competitive advantage and market opportunities. Finally, coffee was recognized as one of the potential export sectors in NTIS 2016 – but missed out in its priority list – so no action plans were designed for the coffee sector. Today coffee is served everywhere across Nepal’s cities and highways, while coffee drinkers gather outside home and workspace along with their favorite cups, further driving coffee culture and coffee habits. Coffee is among the few commodities in which Nepal has the consistent trade surplus status but of lately, the exports have decreased, partly indicating the increasing consumption in domestic market. In 2020, despite the pandemic, Sindhupalchok that promotes its coffee as ‘Sindhu Organic Coffee’ in foreign and domestic markets, exported around one-third (7 Mt.) of their 24 Mt output to Australia, Japan and South Korea (Pande, 2022). Compared to the first time coffee was exported, the country has since registered a significant increase in the overall coffee exports (Table-1 & Figure-3). However, in recent years, exports have dipped. Coffee exports reached 508.59 Mt. in the FY 2008/09, dropping considerably to 69.52 Mt. in 2021/22 (Table 1). Similarly, exports value increased to Rs 125,108,000 in FY 2008/09 also dropped to Rs 117,084,000 in 2021/22 (Table 1 & Figure 3).

Table 1. Status of export and import of coffee in Nepal

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity (Mt.)</td>
<td>Value In NRs. (,000)</td>
</tr>
<tr>
<td>2007/2008</td>
<td>2.27</td>
<td>334</td>
</tr>
<tr>
<td>2008/2009</td>
<td>63.04</td>
<td>11651</td>
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<tr>
<td>2009/2010</td>
<td>62.21</td>
<td>13861</td>
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<tr>
<td>2010/2011</td>
<td>31.33</td>
<td>12513</td>
</tr>
<tr>
<td>2011/2012</td>
<td>28.52</td>
<td>20906</td>
</tr>
<tr>
<td>2012/2013</td>
<td>51.76</td>
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<tr>
<td>2013/2014</td>
<td>64.32</td>
<td>35921</td>
</tr>
<tr>
<td>2014/2015</td>
<td>108.84</td>
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<td>2016/2017</td>
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<td>2017/2018</td>
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<td>2018/2019</td>
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</tr>
<tr>
<td>2020/2021</td>
<td>198.67</td>
<td>106720.6</td>
</tr>
<tr>
<td>2021/2022</td>
<td>279.82</td>
<td>127591</td>
</tr>
</tbody>
</table>

Source: Trade & Export Promotion Center and Department of Customs, Nepal
Germany, Japan, Switzerland, Netherlands and Australia were the leading exports market for Nepal in FY 2020/21, contributing to around 90% of the total coffee export earnings (TEPC, 2022). Yet, overall export level is too tiny compared to a supposed combined demand for 8,000 Mt. of Nepali green beans in domestic and international markets. The low export capacity is mainly explained by limited production volume and low productivity. The high price, high demand and overwhelmingly practiced organic systems are the encouraging signs but the formidable challenge remains on fighting white stem borer and providing incentives for smallholders throughout the relatively long gestation period of coffee. In 2021, Nepal exported $903k in coffee, making it the 109th largest exporter of coffee in the world. In the same year, coffee was the 97th most exported product in Nepal (OEC, 2021). The main destination of coffee exports from Nepal are: Germany ($273k), Switzerland ($260k), Japan ($178k), Australia ($46.9k), and Czechia ($26k) (OEC, 2021). Likewise, in 2020, Nepal exported $625k in coffee, making it the 110th largest exporter of coffee in the world (OEC, 2021). At the same year, coffee was the 81st most exported product in Nepal. The main destination of coffee exports from Nepal are: Germany ($228k), Japan ($97k), Switzerland ($89k), Netherlands ($71.9k), and Australia ($37.7k). The fastest growing export markets for coffee of Nepal between 2020 and 2021 were Switzerland ($185k), Japan ($91.9k), and Germany ($35.8k). Similarly, the fastest growing export markets for coffee of Nepal between 2019 and 2020 were Australia ($20.3k), Germany ($10.9k), and Czechia ($7.88k). In 2018, the average tariff for Nepal in coffee was 26% (OEC, 2021).

3.2.2 Import of coffee in Nepal

Growing coffee imports corroborate that coffee consumption is trending, and that it holds a promising domestic market. Almost 279.82 Mt. of coffee was imported in the FY 2021/22, a 40% growth in import compared to the previous fiscal year (Table-1 & Figure-3). There was 266.31 Mt. of coffee imported from India, followed by 5.59 Mt. from Malaysia and 1.84 Mt. from Republic of Korea in FY 2021/22 (MoALD, 2022). In 2020, Nepal imported $532k in coffee, becoming the 154th largest importer of coffee in the world. At the same year, coffee was the 602nd most imported product in Nepal. In 2021, Nepal imported $884k in coffee, becoming the 152nd largest importer of coffee in the world. At the same year, coffee was the 620th most imported product in Nepal (OEC, 2021).

Nepal imports coffee primarily from: India ($660k), Malaysia ($134k), Thailand ($34.1k), Italy ($29.6k), and United Kingdom ($14k). The fastest growing import markets in Coffee for Nepal between 2020 and 2021 were Malaysia ($103k), Thailand ($10.9k), and United Kingdom ($6.23k). Similarly, the fastest growing import markets in coffee for Nepal between 2019 and 2020 were Singapore ($3.82k) and Germany ($1.36k) (OEC, 2021). Further, the domestic market consumes over 70% of the national production, according to Nepal Tea and Coffee Development Board. The demand is met by farming that has expanded to 44 districts, and across 31,340 small farmers. Among them, Kavrepalanchowk, Gulmi, Nuwakot, Sindhupalchowk, Kaski, Palpa, Ilam, Lalitpur, Syangja and Parbat were the leading ten producers in the FY 2020/21 contributing to almost two-third of the national production (MoALD, 2022). Whereas in a bid to expand production capacity of other districts and enhance production, Arghakhanchi, Gulmi, Syangja, Palpa and Pyuthan are enlisted in Coffee Superzone under the Prime Minister Agriculture Modernization Project. In 2018, the average tariff for Nepal in coffee was 26% (OEC, 2021). The countries with the highest import tariffs for coffee were Angola (Most Favoured Nation duty rate treatment, 26%), Burundi [Most Favoured Nation (MFN) duty rate treatment, 26%), Benin (MFN duty rate treatment, 26%), Burkina Faso (MFN duty rate treatment, 26%), and Botswana (MFN duty rate treatment, 26%). According to Observatory of Economic Complexity (OEC) in 2021, Nepal exported $903k in coffee and imported $884k in coffee, the net trade was $19k (OEC, 2021).
3.2.3 Trade promotion and branding of nepalese coffee

Nepal has registered the Nepal Coffee collective trademark in seven more markets viz, South Korea, Singapore, Japan, Norway, Switzerland, New Zealand and Hong Kong. The brand had been registered only in the European Union (EU) previously (The Kahmandu Post, 2017). Nepali coffee has been gaining popularity in the international market lately. The registration of the Nepal Coffee collective trademark has helped to boost the sales of the Nepalese coffee in the international market. According to the traders, the high quality Nepali product fetches up to $15 per kg, about the same as world class products from top coffee producing countries like Brazil.

Himalayan Java, that sources its coffee from Ilam, runs 23 outlets across Nepal including Jomsom and Namche Bazaar and even has footprints in the US and Canada. Plantec Coffee Estate that produces Arabica coffee of Cattura variety runs a 1,100-ropani coffee estate in Nuwakot with annual production capacity of over 60 Mt. of coffee (Pande, 2022). Plantec sells its coffee under the brand name of Jalpa, among other brand names. Producers like Nepal Organic Coffee Products, Alpine, Lekali, Lumle and Kar.ma, among other prominent producers, are also expanding markets in Nepal and abroad. Entrepreneurs are also rolling up their sleeves to gain international recognition to seize international market opportunities. In 2016, Greenland Organic Farm earned specialty certification from Specialty Coffee Association of America (Pande, 2022). Two years later, coffee produced by Lekali Coffee Estate received similar recognition becoming the first Nepali brand to be reviewed by the Californian trade publication ‘Coffee Review’, one of the leading coffee guides in the world. Grown at Bhirkune Village in Nuwakot, the beans scored 90 points out of 100. In 2020, its coffee rated 92 points, one of the best in South Asia (Pande, 2022). Dedicated barista institutions, along with hospitality colleges, are also growing in the cities, catering to the rising demand for skilled baristas, all thanks to growing local demand for skilled workforce and aspirations for jobs abroad where the coffee skills can prove handy.

4. CONCLUSION:

Coffee is a high value cash crop with environmental importance and is being popular among Nepalese since last few decades. It has been spreading in over 44 districts of the middle hills of Nepal. Coffee plantation is still a new adventure in Nepal. In late seventies, expansion of coffee took place as commercial crop to some extent when Government of Nepal imported coffee seed from India for distribution. The major shift to commercial coffee production took place in mid-eighties. However, after the year 2002, substantial increase in the export and also increase in domestic market consumption to

Figure 3. Export and import trend of coffee in Nepal

Source: Trade & Export Promotion Center and Department of Customs, Nepal

![Graph showing export and import trend of coffee in Nepal](Source: Trade & Export Promotion Center and Department of Customs, Nepal)
some extent motivated coffee producers to consider coffee as a major income generating crop. Now, coffee can be commercially produced in many parts of the country. However, there is great potentiality in mid hilly region for organic coffee production as it has got suitable climate, topography, soil, relative humidity, temperature and rainfall for Arabica Coffee. Some districts like Gulmi, Palpa, Argakhanchi, Lalitpur, Tanahu, Kavre, Sindhupalchowk, Lamjung, Kaski, Gorkha, Syangja, Parbat and Baglung are successfully growing and producing coffee beans and is increasing gradually. All Nepali Coffee is of Arabica variety, mix of bourbon and typical, grown above 800 meters up to 1,600 meters altitude with organic and eco-friendly practices by small farmers. Nepal Coffee is considered specialty coffee for its distinct flavor aroma and body as it is grown in higher altitude, away from the main coffee growing Capricorn and Cancer belt (beyond 230 latitude).

Coffee produced in Nepal is Organic and Fair-trade and is readily accepted as a Specialty Coffee in specific international markets. This will certainly help in diversifying process and will increase the income of the farmers as well as other individuals involved in coffee processing and marketing enterprise. Nepal is exporting coffee beans mostly in Japan, America and European countries. This has been extended to other parts of the world. In spite of the government efforts, growing private sector enthusiasm, and global and domestic market surge for the Nepali coffee, and relative increase in coffee plantation land area, Nepal’s coffee sector is clearly underperforming. To increase production level, more plantations are needed which would require more land parcels. For this, the government needs to unlock access to underutilized lands for commercial coffee plantations. Coffee sector is also constrained by poor research backup in Nepal. Identifying right plant varieties that best suits different geographical and agro-climatic conditions of coffee districts and managing pests and diseases would require robust coffee research centers. Policy reforms and more government support and spending targeted at small-holder farmers, cooperatives and private sector commercial plantations are therefore critical to tap the huge export potential. Government spending and policies must focus on small-holder farmers, who have limited landholding and can’t invest in improving their farms and equipment, to enhance coffee yield and quality.

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