

ROLE OF COFFEE AS A CASH CROP TO UPLIFT THE LIVELIHOOD OF FARMERS IN THE MID-HILLS OF NEPAL

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ABSTRACT

Coffee, introduced in Nepal in 1998 B.S, has been recognized by the farmers as an income generating high value crop in the mid hills region of central and western development region

Reliable data on coffee production is not available. Though the productivity is low the quality of coffee produced in Nepal has potential to make a place in the international niche market. Several international traders have shown interest to buy Nepalese coffee as specialty coffee. Domestic market of the Nepalese coffee is limited to major cities and is entirely dependent on the number of tourist arrival. When cost of production and return is calculated, coffee farmers have been getting almost 200 percent higher price as compared to the cost of production of one kilogram of dry cherry.

Lack of support in the areas of dissemination of production and processing technologies has resulted in low productivity and poor quality of coffee. The producer groups and their association need support in the area of capacity building to market coffee collectively for higher profit.

The decreasing trend in price of regular coffee in the international market necessitates production of Nepali coffee to address the need of the niche market (specialty coffee). Production of known varieties at defined altitude with organic inputs under shade condition. If appropriate support services are provided, coffee sub-sector could be developed into a sustainable industry as a source of foreign currency benefiting the majority of the producers who are small resource poor farmers.

INTRODUCTION

It is believed that a saint named Hira Giri in Aanpchaaur, Gulmi district, introduced coffee for the first time in Nepal from Burma, presently Myanmar, in 1944. Initially, coffee spread to several districts through its introduction by individual farmers and by an ADB/N supported program too. Farmers grew coffee out of curiosity. From the mid-seventies, coffee was grown as a commercial crop and nurseries were also established for commercial purposes. During mid-eighties, the coffee production in some districts was quite high. However, during late eighties marketing problem and poor returns from the crop forced many farmers to cut down their mature trees.

In 1990, first coffee producer group was formed in Palpa to collect the coffee and sale in a price acceptable to the producers. Other districts followed the group approach also. The rise in demand of coffee in mid to late nineties created renewed interest and the growers started planting coffee in an extensive way. Development of the coffee industry in Nepal is already quite encouraging when one observes the development of coffee producers association based on the felt need to support the coffee producers. The number of coffee producer groups is increasing every year with many new farmers planting coffee and many old farmers increasing area under the coffee.

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Agriculture in Nepal is subsistence in nature and there is a need to establish commercialization at least in some commodities having potentiality for this. Among the various potential cash crops for commercialization, coffee is emerging as a likely enterprise in Nepal. Coffee cultivation have a great potential to provide farmers a very good on-farm employment and income generation opportunities and is well adapted to the climatic conditions especially in the mid-hills with a range of altitude from 600 m to 1400 m. Superior quality coffee, high altitude specialty coffee can be produced at an altitude of 800 m or more. The ease of production of coffee and low input requirements means that even marginal lands are suitable for the cultivation of coffee and even small holder farmers can grow this crop within the existing cropping/farming systems with additional benefit of soil conservation and positive environmental impact.

There has been some degree of efforts by INGOs to support the coffee sector by motivating farmers to grow coffee for crop diversification and income generation, contributing to the expansion of the coffee production area. Department of Agriculture has been instrumental to expand the coffee area through subsidized distribution of coffee seedlings in the major coffee growing districts. However, the coffee sector is in need of solid institutional, technical and organizational mechanisms in order to lay corner stone for sustainable development of the sector through increased productivity and quality of coffee with expanded domestic market and exploration of international market.

COFFEE PRODUCTION

The climatic conditions in the mid-hills of Nepal are suitable for the production of high quality coffee. Coffee is presently known to be grown in forty districts in Nepal. However, the coffee growing districts in eastern development region are not very suitable for coffee due to a lot of disease and pest problems. The districts in far-west and mid-west development regions have low potential for quality coffee production due to the frequent drought problem. The major coffee producing districts where coffee marketing/sale has started on a commercial scale is presented in Table1.

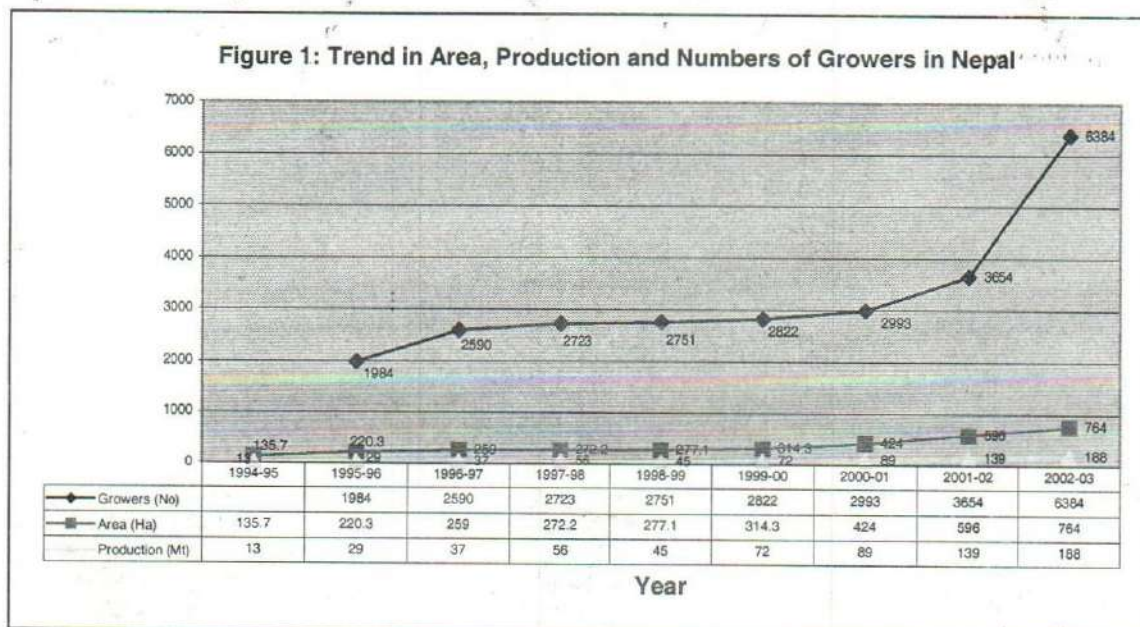
According to information available, number of coffee producers has increased from 1,984 in the year 1994/95 to 6,384 in 2002/03. Similarly the area under coffee increased from 136 Ha in 1994/95 to 424 Ha in 2002/03 and the production of dry cherry increased from 13 Mt in 1994/95 to 188 Mt in 2002/03.

Table 1: Major Coffee Growing Districts, 2003

1.	Ilam	2.	Sankhuwasabha
3.	Sindhuli	4.	Ramechhap
5.	Makwanpur	6.	Dolakha
7.	Nuwakot	8.	Dhading
9.	Lalitpur	10.	Kavre
11.	Lamjung	12.	Sindhupalchowk
13.	Gorkha	14.	Tanahu
15.	Syangja	16.	Kaski
17.	Parbat	18.	Baglung
19.	Palpa	20.	Gulmi
21.	Arghakhanchi		

Source: Survey of Traders and DCPAs

Figure 1: Trend in Area, Production and Numbers of Growers in Nepal



In Nepal, the majority of coffee producers are resource poor smallholder farmers. Coffee is predominantly planted in upland area as an additional/extra crop without disturbing the existing cropping system and on steep hillsides where other crops do not perform well under low input and low management conditions.

The farmers regard coffee as an easy crop to grow, and agronomically less demanding. This might be true if it is planted for the purpose of controlling soil erosion and other environmental protection practices. However, if it is planted for income generation through production of coffee beans, it needs better management to maintain the quality of the coffee produced. Since the majority of growers are small and poor farmers, usually no chemical fertilizers and insecticides/pesticides are applied. The majorities of the farmers do not even weed and manure coffee plants. Hence, the coffee produced in Nepal is more or less organic in nature. However, around Bazar areas/market centers farmers might be applying chemical fertilizers and insecticides and pesticides in cash crops like vegetables planted near the coffee area. Though they do not apply chemicals in the coffee, the chemicals applied in the nearby plots especially, when the plots are prone to high soil erosion and water runoff during rainy season, could contaminate the area under coffee.

Lack of research to develop and recommend coffee production technology has been a major constraint to increase the productivity and quality of coffee. Farmers have learned and adopted technologies through several years of trial and error. Though there have been some isolated efforts to train

the farmers, growers have not been able to receive proper messages on the need and nature of appropriate production practices. This problem has been aggravated by the purchase of coffee produced regardless of the quality. This has been a negative driving force to de-motivate farmers for

Salient Features of On-Farm Coffee Management Practice

Usually marginal lands under upland condition, where coffee can be planted without disturbing the existing cropping pattern.

Majority of the farmers do not have enough manure/compost. Some plant the saplings by digging a small whole just before the planting time.

Planted as an additional crop in the existing cropping pattern.

No specific soil protection, pest management, moisture management and fertility management measures adopted

Farmers do not follow appropriate harvesting technology needed for producing quality coffee.

Poor post harvest on-farm quality management system practiced by farmers

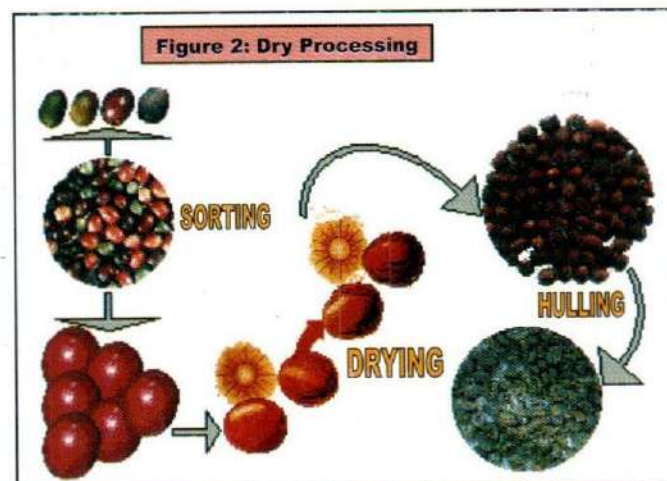
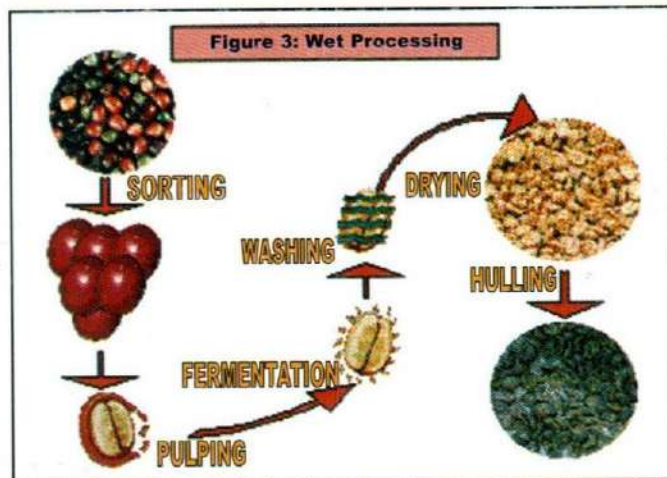
improving production and on-farm quality management practices for quality coffee production. Until the year 2001/02, the price of dry cherry used to be fixed at one price without considering the quality of dry cherry. So there was no reason on the part of the farmers to invest more time and energy to produce better quality cherries when whatever produced is sold at an attractive price as an additional income.

COFFEE PROCESSING

Coffee processing is predominantly dry processing in Nepal for the domestic as well as the international market. Processing is done at two levels, farm level and processors/roasters level. Farmers, immediately after harvest, dry the fresh cherries for about two weeks to produce dry cherries, which are then sold to the processors. Processors who are also the marketers of coffee, process the dry cherry to produce green beans, roasted beans and ground coffee. Agro Enterprises Centre (AEC) introduced about a dozen of pulpers and distributed to District Coffee Producers' Association (DCPAs) to encourage producers to adopt wet processing. However, most of the pulpers are not in use presently due to the lack of technical know-how and necessary conditions for wet processing.

Presently there are two schools of thought in the method of coffee processing for the production of green beans. The dry processing (Figure 2) is simpler than the wet processing (Figure 3) and involves drying cherries immediately after harvest and de-husking. The method is appropriate under Nepalese conditions, though the coffee might not reach to its full potential of quality.

Excellent quality coffee could be produced if harvesting and drying properly done. In the case of wet processing, it is more complicated and need specific technical know how, enough clean water for shorting and washing fresh cherries and wet parchments and facilities to dispose mucilage and contaminated water. Wet processing requires considerable care, as processing errors can cause unpleasant flavors resulting in low quality product. Under Nepalese conditions, where the producers are predominantly small farmers who grow limited number of coffee plants (number of plants per farmer), wet processing is not feasible unless the pulping centers are established at village level and hulling is done at a central location. If this is done effectively higher quality coffee than dry processing is possible.



COFFEE MARKETING

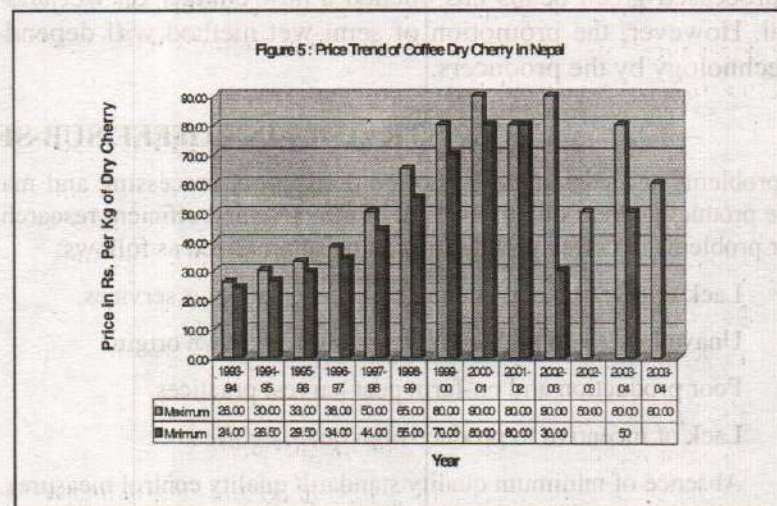
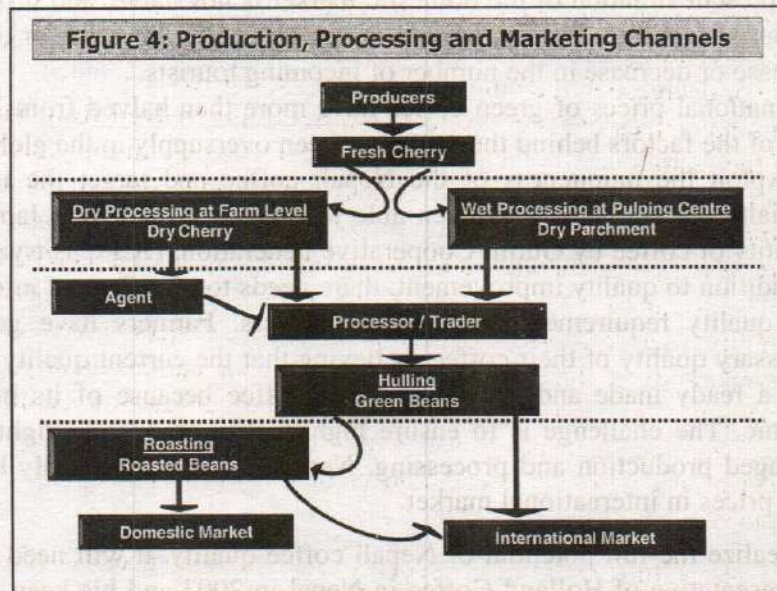
The quality of coffee produced in Nepal has potential both for international as well as domestic market. However, there is still much needs to be done to upgrade the quality of processed coffee in order to address the need/demand of specialty coffee in the domestic as well as world market. Varieties of coffees that get the best prices in international market are those of Arabica, at altitudes higher than 800 meters under Nepalese condition and, above all, grown under shade. These conditions for producing high quality coffee can easily be met in Nepal. Most of the coffee produced in Nepal is sold in the domestic market and a limited amount is also exported to Japan. The Production, processing and marketing channels of coffee is elaborated in Figure 4.

If we look at the trend in the price increase of dry cherry (Figure 5), it is very encouraging to the farmers, who have been able to sell their produce much higher than the international market price. With the increasing supply of coffee every year, it is anticipated that increasing price trend of dry cherry may not

continue and most probably will decrease. There is a need of quality management at the farm level so that the farmers producing higher quality dry cherry can get a price comparable to the price of previous year. There is also a need to have consistency in the quality of roasted bean and ground coffee through quality management at the processors' level. To introduce the concept of quality management at farm level and to encourage farmer to adopt quality standard, National Tea and Coffee Development Board introduced the pricing system of dry cherry based on the quality standard.

In Nepal, coffee is predominantly consumed in the form of imported instant coffee, which is easy to prepare. The consumption of Nepali/filter coffee in Nepalese society is so far limited to elite groups. The domestic coffee market relies on the following consumers:

- Tourists
- Expatriates and
- Higher income Nepalese



The present situation of the domestic market is not stable, and it is highly dependent on the number of tourists visiting Nepal. The sale of Nepali coffee increases or decreases proportionately with the increase or decrease in the number of incoming tourists.

International prices of green coffee have more than halved from January 1999 to November 2001. One of the factors behind the crisis has been oversupply in the global coffee market. So Nepal needs to exploit the uniqueness of the Nepali coffee and target the international niche market of the specialty coffee. Nepal has been able to explore a market in Japan through the export of a small quantity of coffee by Gulmi Cooperative Federation. HCPC is trying to explore the market in USA. In addition to quality improvement, there needs to be a flow of information on international markets and quality requirements of different buyers. Farmers have got a false impression about the necessary quality of their coffee, believing that the current quality is acceptable and that Nepal will find a ready made and easy market for coffee because of its inherent quality and because it is organic. The challenge is to ensure high quality production right from the beginning. With well-managed production and processing, Nepali coffee could easily be an export commodity fetching high prices in international market.

To realize the full potential of Nepali coffee quality, it will need to be wet processed. Visit of the Representative of Holland Coffee in Nepal in 2003 and his keen interest to procure wet and semi-wet processed green beans has opened a new chapter on wet and semi-wet processing of coffee in Nepal. However, the promotion of semi-wet method will depend on the testing and acceptance of the technology by the producers.

CONSTRAINTS IN COFFEE SUB-SECTOR

The problems and constraints in coffee production, processing and marketing are almost similar in all the coffee producing areas due to the lack of effective and efficient research and extension support services. The major problems in coffee production can be summarized as follows:

- Lack of research and adequate extension support services.
- Unavailability of high quality saplings of known origin.
- Poor production and on-farm post harvest practices.
- Lack of incentive to produce high quality coffee.
- Absence of minimum quality standard/ quality control measures.
- Limited domestic market.
- Ineffective marketing channel/ lack of transparency.
- Inconsistency in quality of roasted beans and ground coffee.
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OPPORTUNITIES IN COFFEE SUB-SECTOR

Coffee can be successfully integrated into existing cropping/farming systems of the smallholder farmers to generate additional income without sacrificing existing crops. Coffee is a high value crop, which can be stored by the producers for a longer time as dry cherries with simple on-farm processing practices. The quality of coffee could be significantly improved at the farm level through adoption of improved production technology and on-farm quality management. The coffee sector has opportunities to involve women producers in the areas of production, on-farm processing and marketing through increased participation of the women in the producers groups and provision of skills through various trainings.

The domestic market survey conducted by Helvetas-Nepal has shown that the increment pattern of use of Nepali coffee (roasted bean) is higher as compared to ground and instant coffee and roasted bean is getting popular as a beverage. According to the report, the main constraint for the growth of Nepali coffee in the domestic market is the lack of awareness of the availability of Nepali coffee among the consumers and those who know it lack know-how on the appropriate methods of coffee preparation. Promotional activities like mass awareness (radio/television, leaflets/posters, banners in public places, rallies, etc.), coffee stalls at the airports, trade fares/exhibitions, etc. could have effective and quick result in popularizing Nepali filter coffee. There is a scope to introduce Nepali coffee in the international niche market, as a unique product, produce outside the world coffee growing belt. It can be achieved through necessary ground work to maintain the minimum quality standard and origin sourcing of the product. Opportunities of the coffee sub-sector can be summarized as follows:

- High Value Crop.
- Producers can store for longer time as dry cherries with simple processing practice.
- Can be integrated into existing farming system.
- Quality can be improved through adoption of appropriate production and on-farm post harvest technologies.
- Possible to involve women producers in the areas of production, processing and marketing.
- Wet processing to produce dry parchment at farm level is feasible in accessible areas.
- Market for dry processed coffee is available.
- Increment pattern of use of Nepali coffee in the domestic market is high.
- International Traders interested to buy Nepali coffee at higher price.

CONCLUSION

Coffee has become a potential source of foreign currency and import substitution through creation and exploration of domestic as well as international market.

Lack of research and development in coffee is the bottle neck to develop the coffee sub sector into viable industry for producers, processors and traders.

Despite the limitations, coffee industry has so far been able to survive, but urgent support is needed complimented by defined government policy.