Issue #3

IIDS Policy Brief

Articulating and Mainstreaming Agricultural Trade Policy Study (FAO-IIDS)

Coffee Farming in Nepal

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Articulating and Mainstreaming Agricultural Trade Policy Study (FAO-IIDS)

Coffee Farming in Nepal

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Dr. Posh Raj Pandey, Chairman of South Asia Watch on Trade and Environment (SAWTEE), was a consultant to IIDS for conducting Articulating and Mainstreaming Atricultural Trade Policy Study (FAO-IIDS) on Coffee Farming.

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Coffee Forming in Nepal

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Articulating and Mainstreaming Agricultural Trade Policy Study (FAO-IIDS)
Coffee Farming in Nepal

Executive Summary

Coffee farming in Nepal is at its infancy but coffee has been rapidly emerging as one of the potential products for exports as well as import substitution. If estimates of 60,000 hectares of land suitable for growing coffee in Nepal are correct, coffee area can in theory expand by 30 times from the current crop area of about 2,000 hectares. The prospect for export demand is also considered high in view of the image of high altitude Himalayan coffee, with organic coffee being another attraction. Coffee production and trade currently face many systemic problems in common with other agricultural commodities but recent growth trends have been encouraging for coffee. Coffee has been listed in Nepal's 2009 Trade Policy as one of the thrust areas for product development.

This brief presents a background on the state of coffee production and trade in Nepal (Section 1), key value chain actors (Section 2), problems at micro as well as macro levels (Section 3), and some recommendations for the development of the coffee sector (Section 4).

1. Background - coffee production and trade

Coffee production in Nepal has a fairly short history. A saint, Hira Giri of Gulmi district in western Nepal, is considered to be the pioneer. He bought some coffee seeds from Myanmar and introduced them in Aanpchaur of Gulmi district back in 1938. Gradually, the plantation of coffee started spreading to adjoining districts, such as Palpa, Syanga, Kaski and Baglung, and other districts.

Nepal grows only the Arabica variety of coffee as climate and soil conditions in the mid and high hills of Nepal are found to be suitable for this variety. Coffee area has increased more than 10 folds between 1994/95 and 2007/08. In 2007/08, a total of 442 tonnes of coffee was produced in 1,450 ha of farm land (Annex Table 1). The average yield of the green beans is about 300 kg per ha. Although productivity has increased significantly over the period, it is lower than major coffee producing countries such as Viet Nam and Indonesia. However, through proper management, adequate shading and manuring practices, yield could rise to as high as 1,550 kg per ha (AEC 2006). Gulmi district produces the highest amount of coffee followed by Laltipur, Kavrepalanckok, Syangja and Palpa. Lamjung, Gorkha and Nuwakot districts are other emerging coffee producing districts (Annex Table 2).

Nepal imports as well as exports coffee. Exports are largely coffee beans while imports constitute processed instant coffee. Nepal imported coffee worth of Rs. 64.48 million in 2007/08. In the same year, a total of 112 tonnes of coffee with total export value of Rs 107 million was exported (NTCB 2009) According to Coffee Producer's Association of Nepal, about 65% of the total output is exported. The trend in the growth of exports both in terms of volume and value is quite encouraging. During the last seven years, the growth rate was 71% per annum for export volume and 264% per annum for export value, which indicates a substantive growth in per unit export price also (Table 1).

Table 1: Coffee exports of Nepal (green beans)

Year	Exports	
	Volume (Kg)	Rs. million
2000/01	3,677	0.67
2001/02	9,075	2.45
2002/03	16,861	5.20
2003/04	25,295	5.94
2004/05	65,000	1.96
2005/06	91,500	27.67
2006/07	100,180	40.11
2007/08	112,000	107.80

Source: NTCDB (2009).

Nepal exports only green beans of Arabica coffee both in decaffeinated form (65%) and without decaffeination (35%). Table 2 shows exports by destination. The major market is Japan for both decaffeinated (85%) and non-decaffeinated (50%) coffee, followed by Germany for the former, Canada for both and the Republic of Korea for the latter. Very small amounts have been exported to the United Kingdom and the United States of America.

Table 2: Export markets for Nepalese coffee, 2007/08 (Rs 000)

Countries	Neither roasted nor decaffeinated	Not roasted, decaffeinated
Canada	1,044	927
Germany	140	7,857
Japan	8,899	9,242
Republic of Korea	185	989
United Kingdom	98	-
United States of America	6	-
Total	**10,372**	**19,015**

Source: TEPC (2009).

All the major importing countries levy zero duty on imports of green coffee beans; therefore any kind of tariff preference is irrelevant for Nepal. Nonetheless, Nepal, being a least-developed country (LDC), enjoys duty-free access for roasted coffee under trade preferences for LDCs in all the major coffee importing countries. However, the margin of preference is higher in the Japanese market (Table 3).

Table 3: Market access conditions for Nepalese coffee in major importing countries (tariffs in percent)

Country	Green Beans			Roasted		
	Most Favoured Nation tariff	Preferential tariffs for GSP	Preferential tariffs for LDCs	Most Favoured Nation tariff	Preferential tariffs for GSP	Preferential Tariffs for LDCs
United States of America	0	-	-	0	-	-
Germany	0	-	-	7.5	-	0
France	0	-	-	7.5	-	0
Italy	0	-	-	7.5	-	0
Japan	0	-	-	20	10	0
Belgium	0	-	-	7.5	-	0
Spain	0	-	-	7.5	-	0
United Kingdom	0	-	-	7.5	-	0
Austria	0	-	-	7.5	-	0

Source: ITC TradeMap.

Coffee production also provides employment to rural work force. It is estimated that about 20,000 families are engaged in the production of coffee (Ghimire 2009) and it generates more than 7,700 full-time employment equivalent (ITC 2007). In addition to direct employment, a large number of people are employed in different stages of value addition such as cleaning,packaging, transportation, loading and unloading. The Agro Enterprise Centre (AEC) of the Federation of Nepalese Chambers of Commerce and Industry (FNCCI) estimates that promotion and diversification of coffee into specialty and organic coffee might be engaging 75,000 farm families, resulting in 460,000 people as beneficiaries with 420,000 employment to the farmer's family members and 40,000 employment in processing and marketing (estimates for 2005-06).

The policy statements of the government are supportive for coffee development. The Three-Year Interim Plan listed coffee as one of the priority products for mission programmes (GoN 2007). Similarly, Trade Policy 2009 also identified coffee as a thrust area for export promotion (GoN 2009). Earlier in 2003, the government formulated a Coffee Policy with the objectives of developing the coffee sector in a sustainable manner, increasing participation of private and cooperative sectors in production, processing and trade, creating income and employment opportunities to reduce poverty and promoting exports. It also identified strategies and working policies for production and processing, market and market promotion, and institutional development (GoN 2003).

As for direct support to farmers and processors, the government provides interest subsidy on loans taken by coffee producers. The budget speech of 2009/10 initiated a programme of providing subsidies of 25% of the cost of machinery and equipment to coffee industry. It also introduced 100% subsidy for the registration of trademark, 'Nepal Coffee', in international markets.

Thus, overall, the intent of the government policies towards the development of coffee is positive and progressive but the content is inadequate and implementation sluggish when compared to support

measures provided in other Asian coffee producing countries. Thus in Nepal there is no support for plantation and seeds and seedling, technology adoption and adaptation, quality up-grading and market development, and R&D initiatives on product development, processing technology and human resources are disappointing.

The above discussion shows that the production of coffee and area coverage, though initially at low levels, has increased significantly in the last decade and the export of coffee from Nepal has been growing significantly and the markets being diversified. In addition, world export market is encouraging and the import demand in major markets recorded double-digit growth (ITC-TradeMap). Market access conditions are good, with no tariff barrier while Nepal enjoys significant tariff preferences in European and Japanese markets. The major challenges are at home – improving productivity, quality, diversification into specialty and organic coffee, and meeting SPS and other standards for exports.

2. Main actors in the coffee value chain

In a simplified model of coffee production in Nepal, the first stages include the artisanal process of planting and growing the coffee plants, then hand picking and seizing, and afterwards drying, washing and cleaning the coffee beans. The process requires the farmers' constant attention, especially in order to assure the quality of the coffee. Local farmers, sometimes through cooperatives, sell the cherry to pulpers or operators, who in turn sell them to processors/marketers. After hulling and quality control, it is exported in roasted or green form or sold to the domestic market after roasting, grinding and packaging. The exporter channels the coffee either to roasters or other brokers or intermediaries. In term of volumes, about 65% of total production is exported whereas about 35% is consumed in the domestic market.

What follows briefly discusses the functions of different actors in the value chain of coffee production, marketing and distribution in Nepal.

Farmers - Farmers are the key actors in coffee production. There are more than 21,000 farmers producing coffee in 40 districts of the mid hills. Lalitpur, Gulmi, Palpa, Syanga, Kaski, Kavrepalanchok, Sindhupalchok and Arghakhanchi are well known districts for coffee production and farmers of Baglung, Parbat, Dhading, Gorkha, Lamjung, Tanahu, Rasuwa, Nuwakot, Okhaldhunga, Ramechap and Ilam have also started growing coffee recently. The average coffee farmers are lower middle class owning 1.4 ha land consisting of bari (non-arable land with steep as well as moderate slope used for cultivation of maize, millet, beans and mustards). Since coffee farming gives returns only after 3-4 years of plantation, it is difficult for the poor/marginal farmers to be engaged in coffee farming in view of their immediate consumption needs. Some of the exporting enterprises, e.g. Highland Coffee Promotion Company Limited and Planted Coffee Estate, have also started coffee farming in a large scale by leasing land from farmers/government agencies.

All the cherries are hand-picked by farmers/wage labours. Farmers often pluck all the berries on each branch, and do not distinguish between ripe cherries and green ones. Such practice has resulted in quality variation of the coffee.

The expansion of coffee farming is being carried out by farmers without any scientific basis of the suitability of land and climate conditions. The pioneers of coffee farming had adopted the farming and processing system imported from El Salvadore and they have been modifying the system on a hit-and-

trial basis. Other farmers are emulating such farming system. There has not been any scientific research on the method of farming in Nepal and so the most appropriate method for coffee farming in terms of optimum yield, better quality and minimum infection of disease is yet to be identified.

Pulpers - Initially there used to be five players/stakeholders engaged in bringing coffee from the farm to markets, namely farmers, collectors, pulpers, processors and traders. However, for the last few years, some collectors have also started performing the role of pulping the ripe cherry and forwarding to processors. This channel is common in wet processing system which covers nearly 80% of the market. However, in some places, farmers bring ripe cherries/dry cherries to the collector, who in turn (after drying if s/he buys the ripe cherry) takes it to the processor directly. This prevails in the dry processing system that accounts for nearly 20% of the market share. In both the processes, processors themselves act as traders and sell the final products either in the domestic and/or overseas markets.

Coffee farmers sell ripe cherry coffee to the pulper operators at pulpers' gate. The pulping stage is the most crucial stage for determining the quality of coffee. It involves sorting, water soaking, pulping, fermentation, washing and drying. The pulper sells parchment to the processors/marketers. After processing and packaging, the processors/marketers sell coffee in the domestic markets or export.

Processors - Processors or exporting companies often buy parchment from the collectors or get cherries from their own farms. Processors are also involved in processing and packaging of coffee in different size packages and put label according to their respective brands. There has not been any research on the use of technology in pulping, hulling and drying.

Marketer/exporters - In order to prepare coffee beans for marketing in the domestic market or for export, marketers/exporters reprocess the coffee collected from processors to meet export standards and classify coffee into different quality levels. But even after reprocessing, the coffee still has many imperfections for technology reason. The coffee for export is often affected by three problems: humidity, black and broken beans, and impurities. It has also been found infected by Ochratoxin A (OTA) (AEC 2006).

Coffee is exported mostly on *fob* Kolkota basis. However, some exporters also export by air. Huge amount of extra cost has to be borne in transporting coffee. The extra cost involved in export is due to the movement of container from Kolkota to Kathmandu and back, cost of ventilated container and detention charge. Exporters also informed that they have to pay taxes/fees at the customs points. As there is no any national agency which certifies the quality of the coffee and also the product as a produce of Nepal, it has been reported that imported coffee, mostly from India, has also been marketed in Nepal as well as exported overseas as Nepalese coffee.

3. Major constraints to coffee development in Nepal

The natural conditions enjoyed by the coffee industry in Nepal give it an advantage over many other coffee exporting countries. These conditions are the product of altitude, latitude, climate, soil, the surrounding environment and organic farming practices by default. Despite these, the coffee industry has been facing problems in all parts of the value chain: production, processing and marketing. In addition, there are some institutional problems as well.

In production, there has not been any research on the suitability of soils for coffee production and as a result coffee has been produced in a sporadic way all over the mid hills without any pocket areas for

coffee development. As its production is thinly distributed with small growers growing few trees, neither are farmers aware of the quality of the coffee produced nor does there exist any agency to certify the quality of the coffee. Similarly, with regard to inputs, there has not been any research on improving the quality of seeds and seedlings, and there is no institutional mechanism to provide/distribute appropriate seedlings, required nutrients for the plant and organic fertilizers and pesticides. There is no financial incentive to upscale production in terms of easy access to and lower cost of finances. At times coffee plants have been infected by White Stem Borer but there are no technical experts who can advise farmers on how to control the infections.

In processing, there is a lack of adequate machines, equipment and accessories to carry out pulping, washing and drying with appropriate technology. There has not been any significant research on the appropriateness of the machine used in processing. Some of the policies of the government are anti-coffee sector bias, for example, the import of machinery for pulping, drying, grinding and roasting carry normal custom duties, up to 30%, rather than the lower duties applicable to other industries importing machinery.[1] There is a lack of skilled manpower to carry out the processing and accredited laboratory to control the quality. After processing, there is a problem of storage with appropriate temperature, which exposes the beans to fungus and moulds causing Ochratoxin A (OTA).

Exporter and traders are facing a number of problems both in the domestic and export markets. In the domestic market, there is no quality and market regulation, as a result of which substandard imported products are making entry into domestic markets. Similarly, there is no testing laboratory for certification, including cup testing, to ensure quality. In addition, exporters are facing high cost for certification, transportation including requirements for ventilator containers, and for packing materials and there are also problems of proper warehousing system. They are required to pay local taxes, both formal taxes levied by the state and informal taxes imposed by non-state actors, at multiple layers. There is no institutionalized system for providing export market information.

At the policy and institutional level, the government enacted the Coffee Policy 2003, but due to lack of implementation guidelines the policy is in limbo. Despite existence of National Tea and Coffee Board (NTCB) to promote tea and coffee in Nepal the institution is preoccupied with the activities of tea promotion while coffee-related issues are put on the back burner.

4. Conclusions and recommendations

The climatic conditions as well as soil of Nepal are conducive for the production of high quality coffee. The comparative advantage is further augmented by the availability of cheap labour in Nepal. The positive and high income elasticity of demand and the possibility of import substitution also indicate promising future demand for coffee but there exist problems in every stage, from the farm to the market. Improvements in the followings areas of production, processing and marketing would go a long way towards promoting and developing the coffee sector by reducing costs and improving quality and efficiency.

Land Management - Farmers all over Nepal have been farming coffee on available pieces land as a part of income generating programme launched by government and non-government entities or demonstration effect of other coffee farmers. Together with quality of saplings, inputs and technology, the quality of land explains the low productivity. There is a need for survey and diagnosis of lands suitable for coffee for promoting production in clusters of lands or pockets.

Introduction of new varieties **-** There is also a need for research on the varieties of coffee, their productivity, susceptibility to diseases, cup quality suitable for Nepalese climatic situation and soil conditions. In this regard, harmonization in the activities of coffee research station of Nepal Agriculture Research Council (NARC) and NTCDB in coordination with Coffee Producer's Association would go a long way. Similarly, commercialized nurseries with proper monitoring of the quality of seedlings need to be widely established. The NTCDB should take the initiatives or support private sector with technical advice.

Awareness and skill development - Only the producers in the organized sector are aware of the importance of the quality of coffee and small farmers give least importance to quality matters. Therefore, there is a need for creating awareness on the quality of coffee, and also training of all actors involved in the value chain, e.g. farmers, pulpers and processors on how to improve, maintain and preserve the quality. In addition, there is a need for imparting knowledge to farmers on the coffee farming. Introduction of a course on coffee in Agriculture Colleges would help to produce the required manpower for coffee.

Certification of coffee - Nepalese coffee is by default organic but due to the absence of a certifying agency, most of the coffees are exported as conventional coffee. The future action should be focused on establishing legal and institutional frameworks for certification and labelling of coffee. There should be a regular monitoring of coffee marketed in domestic and/or export markets. Similarly, supply of organic fertilizers, pesticides and insecticides should also be ensured and cup testing laboratory should be widely established. In this regard, support to the farmers in establishing internal control system (ICS) is crucial.

Processing and storage system - The processing system adopted in Nepal was that of El Salvadore introduced a decade ago and there has been no further improvement. Research is needed for improving coffee processing, in particular in pulping and introduction of solar drying system. The custom duties on the import of machinery need to be rationalized. Intervention is also required for better storage of coffee so that the infection of fungus and mould could be reduced.

Reducing transport and transaction costs - The distance between the farm and the processing unit is high in most of the rural areas and due to lack of road connection coffee is transported through portage. In this context, coffee production site as identified by Ministry of Agriculture should be accorded priority on the rural road transport programme implemented by the Ministry of Local Development. The traders are required to pay District Development Committee taxes even for bringing cherry for processing. In addition, they have to cough up taxes to non-state actors as well. Such taxes should be abolished immediately. For the exporters, an empty ventilator container has to be brought to Kathmandu from Kolkata and again sent back to Kolkata with coffee beans. Public private partnership could be introduced with one time support from the government on the purchase of container. A proper warehousing facility is also needed in the airport for air transport.

Institutional development - There is a need for coordination between and among government agencies such as the MoAC, National Planning Commission, NTCDB and District Agriculture Development Office and also with the FNCCI, Federation of Nepalese Cottage and Small Industries, Federation of Nepalese Coffee Producers Association and district-level chambers. There is also a need for the establishment of a resource centre as a technical wing of the NTCDB for the development of new varieties, training and

dissemination of information on farming practices, collecting information on market intelligence and institutional support for coffee producers.

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Annex Table 1: Coffee production in Nepal, 1994/95-2007/08

Year	Area (ha)	Production dry cherry (tonnes)	Productivity (dry cherry kg per ha)
1994/95	135.70	12.95	95
1995/96	220.30	29.20	132
1996/97	259.00	37.35	144
1997/98	272.10	55.90	205
1998/99	277.10	44.50	160
1999/00	314.30	72.40	230
2000/01	424.00	88.70	209
2001/02	596.00	139.20	233
2002/03	764.00	187.50	245
2003/04	925.00	217.60	235
2004/05	1078.00	250.00	231
2005/06	1285.00	391.00	304
2006/07	1295.50	270.00*	347
2007/08	1450.00	265.00*	304

* Parchment, average ratio dry cherry to parchment is about 0.6.

Source: NTCDB (2009).

Annex-Table 2: District-wise production of coffee in Nepal, 2007/08

Districts	Area (ha)	Production (tonnes)	Districts	Area (ha)	Production (tonnes)
Palpa	185.0	25.0	Ilam	30.0	15.0
Gulmi	110.0	35.0	Khotang	7.0	2.0
Arghakhangi	74.0	10.0	Jhapa	2.0	1.0
Syangja	205.0	29.5	Panchthar	8.0	2.0
Kaski	70.0	13.5	Udayapur	2.5	2.0
Parbat	40.0	5.0	Lalitpur	70.0	30.0
Lamjung	148.0	8.0	Sindhupalchok	77.0	17.0
Gorkha	97.0	5.0	Kavrepalanchok	116.5	30.0
Baglung	35.0	5.0	Nuwakot	58.0	13.0
Tanahu	45.0	2.0	Dhading	16.0	7.0
Myagdi	5.0	3.0	Makawanpur	11.0	3.0
Sankhuwashava	18.0	3.0	Others	20.0	10.0
Total	**1032**	**144**		**418**	**132**
Grand Total	**1450.0**	**276.0**			

Source: GoN (2008).

Articulating and Mainstreaming Agricultural Trade Policy Study (FAO-IIDS)

Coffee Farming in Nepal

The history of coffee farming in Nepal is very recent. It has rapidly emerged as one of the potential products in the country's export. The prospect of export is considered high for the high attitude Himalaya coffee, with organic coffee being another attraction. Even through the recent growth in coffee export has been encouraging, the production and trade of coffee face many systemic problems in common with other agricultural commodities. This brief reviews some of these problems in every stage from farms to the market and makes a number of recommendation for developing the coffee sector by reducing costs and improving quality and efficiency.

ABOUT IIDS

The Institute for Integrated Development Studies (IIDS), established in November 1990 as a non-governmental non-profit research organization, is a successor to the Integrated Development Systems, or IDS (est. in 1979). The main objectives of IIDS are to contribute to more informed public policy and action by conducting empirically based policy-oriented research on Nepal's economic and social development, foster informed debate and discussion on key development issues facing the nation, provide training and technical assistance to governmental and non-governmental agencies in areas of Institute's expertise, and facilitate access to and exchange of experience with institutions within and outside the country.