NEPAL

NATIONAL SECTOR EXPORT STRATEGY

COFFEE

2017-2021







THE HIMALAYAN SPECIALTY

NEPAL COFFEE

Government of Nepal

International Trade Centre

This national sector export strategy was developed on the basis of the process, methodology and technical assistance of the International Trade Centre (ITC) within the framework of its Trade Development Strategy programme.

ITC is the joint agency of the World Trade Organization and the United Nations. As part of its mandate of fostering sustainable development through increased trade opportunities, the ITC offers a suite of trade-related strategy solutions to maximize the development payoffs from trade. ITC-facilitated trade development strategies and roadmaps are oriented to the trade objectives of a country or region and can be tailored to high-level economic goals, specific development targets or particular sectors, allowing policymakers to choose the solution that meets their needs.

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Photo: Gerald Davison, *Local coffee*

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The document benefited particularly from input and guidance provided by the members of the coffee core team that steered the formulation of the sector strategy, as listed below.

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ACRONYMS

ADS	Agriculture Development Strategy
AEC	Agro Enterprise Centre
CAGR	Compound Annual Growth Rate
DCCU	Central Coffee Cooperatives Union
CCCUL	Central Coffee Cooperative Union Limited
CoC	Code of Conduct
CRC	Coffee Research Centre
CoPP	Coffee Promotion Programme
DADO	District Agriculture Development Office
DCCU	District Coffee Cooperative Union
DFTQC	Department of Food Technology and Quality Control
EIF	Enhanced Integrated Framework
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDA	Food and Drug Administration (United States)
GAPs	Good Agricultural Practices
HS	Harmonized System
ICE	Intercontinental Exchange
ITC	International Trade Centre
MoAD	Ministry of Agricultural Development
MoC	Ministry of Commerce
MRL	Maximum Residue Level
NARC	Nepal Agricultural Research Council
NGO	Non-governmental organization
NCPA	National Coffee Producers Association
NTCDB	National Tea and Coffee Development Board
NTIS	Nepal Trade Integration Strategy
PCC	Primary Coffee Cooperative
PoA	Plan of Action
RA	Rainforest Alliance
SAN	Sustainable Agriculture Network
SAOS	Soil Association Organic Standard
SCAA	Speciality Coffee Association of America
SCAE	Speciality Coffee Association of Europe
SPS	Sanitary and phytosanitary
TEPC	Trade and Export Promotion Centre
TPSD	Nepal Trade and Private Sector Development Project
USDA NOP	United States Department of Agriculture National Organic Programme
WFTO	World Fair Trade Organization

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Photo: Organic Without Boundaries, *Photo HELVETAS NEPAL.*

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Photo: Nepal Coffee Producers Association.

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Photo: Bioversity International, *A Nepali woman holding up a branch of Coffee Arabica in a local Diversity Fair in Begnas, Nepal.*



FOREWORD BY MR. **MEEN BAHADUR BISHWAKARMA**, HON. COMMERCE MINISTER

Trade has been considered as a powerful means of economic growth and poverty reduction. The changing and crosscutting global trade environment presents new opportunities as well as challenges for Nepal. The country has numerous prospects for exports of agro and forest based, and manufactured niche products. I believe that the Coffee Export Strategy 2017-2021, which has been prepared through collaborative and participatory efforts of private and public stakeholders, would address the challenges in achieving trade competitiveness.

This strategy has come at a time while Nepal Trade Integration Strategy 2016 has identified coffee as a potential export commodity. Coffee Export Strategy 2017-2021 aims to address the sectors competitiveness constraints and provides a comprehensive roadmap in areas of production, processing, marketing and quality improvement in a sustainable manner for poverty reduction, employment generation, utilization of local resources, reducing trade deficit and thus, contributing to the national economy at large.

Coffee is one of the popular beverages throughout the world and demand for specialty coffee is in an increasing trend. For over the years, Nepali coffee has received special recognition as specialty coffee in the international market. Consumers in Europe, Republic of Korea, the United States of America and Japan are continually aspiring for novelty coffee and there is an appreciation of the Nepali coffee grown by the rural communities in the mid hill region of Nepal as “coffee from the Himalaya”, Development of coffee sector can provide numerous socio-economic advantages to key actors of the domestic value chain while connecting with the global market.

I would like to urge development partners to ensure the cohesion and alignment of their interventions with national priorities. I would like to express special thanks and appreciation to the ITC for supporting us to prepare this important strategic document. Similarly, I would like to thank various public and private sector actors and stakeholders, Core Team Members for their meticulous and hard work in preparing this document.

FOREWORD BY MR. **NAR BAHADUR CHAND**, HON. STATE MINISTER FOR COMMERCE



Export growth is a multipronged process and an important proponent of economic development. The changing dynamics of international trade has shown that export growth cannot sustain just through exploiting traditional export markets but also requires focus on diversification of the overall trade basket. Therefore, it is imperative that Nepal finds new markets and carves out markets for increasing its basket of competitive products.

Coffee as a potential export product within the framework of the Trade Policy 2015 and NTIS 2016 presents a new export avenue and opportunity for Nepal. Coffee is a niche market driven sector and commands high export earnings. Over the years Nepali coffee has received special recognition as specialty coffee in the international market. The growing consumer market for novelty coffee coupled with the positive socioeconomic impact on the entire gamut from farmers, producers, entrepreneurs and exporters only further emphasizes the need to focus on the development of the sector.

I am pleased that we now have the National Sector Export Strategy (NSES) – Coffee 2017-2021 which will support the development of exports for the coffee sector. The International Trade Centre has supported us in developing, the strategy with their technical support. The NSES has been developed through a participatory process of incorporating all relevant Ministries, agencies, development partners and private sector and I would like to extend my appreciation to all involved.

The NSES provides a roadmap to improve export competitiveness through strengthened institutional support, improved production and quality and recognition of Himalayan specialty coffee in the domestic and international market. It aims to reinvigorate engagement of SMEs on the expanding market prospects and helping gain access to the global value chains which may offer better opportunities to sell their products and services in the global market.

The Government of Nepal is committed to playing a constructive role in the implementation of the strategy in view of realizing Nepal's developmental agenda. The process of economic development is a collaborative process and therefore, both public and private sector partners coming together in one platform with a joint vision will definitely provide impetus for the development of the coffee sector and overall economic growth of Nepal.



FOREWORD BY MR. **CHANDRA KUMAR GHIMIRE**, COMMERCE SECRETARY

Government of Nepal has taken a series of initiatives to promote exports so as to achieve sustainable and inclusive economic growth, poverty reduction, and improvement in the living standard of the Nepali people. Trade Policy 2015 and Nepal Trade Integration Strategy (NTIS) 2016 have clearly outlined the priorities for achieving export-led economic growth of Nepal by interventions through measures supportive of value chain development, trade mainstreaming and enhancement of export competitiveness.

The coffee sector is one of the export potential sectors identified by NTIS 2016. The sector has been experiencing changes in demands in the international markets due to evolution in structure of consumer preferences in terms of quality, taste and varieties. Considering all these issues, the Ministry of Commerce has prepared a National Sector Export Strategy (NSES) for the coffee sector with the technical support from International Trade Centre (ITC). The NSES is prepared through a comprehensive consultation process with key public as well as private stakeholders. The Strategy is finally ready to take off for successful implementation process, as it has outlined a detailed 5-year Plan of Action agreed by the all concerned stakeholders of coffee sector in Nepal.

For the last 15 years, coffee sub-sector has been witnessed as a flourishing "low volume-high value" commodity. Currently, there are about 32,000 smallholders in the mid-hills of the country producing Arabica coffee which has been characterized as specialty in the international market. Current coffee demand, both at the domestic and international markets fairly supersedes the production. Hence, in addition to growth in production quantum, improvements are required at all levels of rest value chain i.e. processing, branding, marketing and quality management to tap the opportunity as displayed by coffee sub-sector. The NSES envisions to raising production and promoting Nepali specialty coffee in international markets to boost export revenues and improve rural livelihoods. Henceforth, bringing out this Strategy is an important step forward to ensure the support of all relevant stakeholders in implementation and to promote "Coffee from the Himalaya".

I am thankful to the ITC for its technical assistance in preparing this Strategy. I appreciate the supports from all public and private sector organizations in preparing this Strategy. 1 take this opportunity to urge all concerned public and private sector and other stakeholders to feel everyone around the world *let's celebrate our life with the Himalayan Coffee.*



Photo: ITC



FOREWORD BY MS. **ARANCHA GONZÁLEZ**, EXECUTIVE DIRECTOR, INTERNATIONAL TRADE CENTRE

As Nepal seeks to use international markets to drive growth and job creation, the Nepal Trade Integration Strategy (NTIS 2016) has identified coffee as a priority sector with high potential to bolster exports and inclusive growth.

The sector offers considerable promise for ramping up export production and revenue. Nepal's coffee sector has flourished over the past 15 years, with export volumes increasing three-fold in the space of a decade. The cash crop is already an income source for more than 30, 000 farmers and their families in the country's central and western parts. Nepali coffee's exotic origin in the Himalayas, together with its community-based modes of Arabica bean production, has seen growing interest from speciality coffee traders in European and East Asian markets. Capitalizing on this interest –and the lucrative price premiums it offers– would contribute to economic growth and improved livelihood opportunities, especially for women and young people, in rural mountainous districts. Yet seizing these opportunities requires sector stakeholders to improve production and quality.

The path to trade-led development consists of better enabling businesses to connect to regional and international value chains. Providing access to value chains is not just about helping companies overcome obstacles in foreign markets. Very frequently, it is about identifying policy and institutional bottlenecks would-be exporters encounter at home, and acting to resolve them.

For Nepal and its emerging coffee sector, this strategy is intended to serve as a compass for achieving its vision to raise production and promote Nepali speciality coffee in international markets, thereby boosting export revenues and improving rural livelihoods.

It is from this standpoint that the International Trade Centre (ITC) has supported Nepal's export development planning. This Sector Export Strategy (SES) highlights strategic options and a path for the development of Nepali coffee exports – options that are aligned to the country's needs, priorities and ambitions for sustainable development through trade.

The SES provides a comprehensive five-year roadmap for increasing production volumes and high-quality exports. To sustain the appeal of Nepali coffee in the long term, the strategy aims to reinforce the development and implementation of rigorous quality standards to build a sound international reputation for organic and speciality coffee.

Raising the production and quality of Nepali coffee will require coordinated efforts by policy makers, institutions and businesses, as well as by development agencies already engaged in the sector. The strategy sets out an agenda for action. It stresses the importance of developing a national plan for expanding coffee production areas, supported by improved pest and disease management. In parallel, the strategy proposes concrete steps to develop the support capacities of cooperatives to improve bean quality and promote organic certification. It also lays the foundation for the private sector and key public institutions to work together to update the national coffee policy.

While ITC is proud of its support to Nepal, ownership of the SES lies squarely with the country. The strategy was developed in partnership with sector associations and development agencies under the coordinated effort of the Ministry of Commerce and the engagement of the Ministry of Agriculture Development.

Extensive consultation with all sector stakeholders during the design of the strategy has sparked momentum for concerted action. This momentum needs to be maintained. As Nepal continues on its journey towards further economic development, ITC stands ready to accompany coffee sector stakeholders on this new road to greater opportunities through trade.

कार्यकारी सारांश: कफी

विभिन्न देशमा छरिएर रहेका कफीका विशिष्ट व्यापारी र मन बहलाउने स्वादिलो कफी बनाई बेच्ने पारखी कफी विक्रेताहरूसँग सम्बन्ध जोडिनु नै नेपाली कफीको खास विशेषता हो । विदेशमा नेपाली कफीलाई रुचाइने मुख्य कारणमा यसका केही अद्वितीय विशेषताहरु जस्तै उच्च पहाडी र विशिष्ट स्थानमा उत्पत्ति हुनु र यस्तो ठाउँ परम्परागत समशीतोष्ण कफी उत्पादन क्षेत्रभन्दा बाहिर रहनुलाई मानिन्छ । यो उच्च पहाडी जमिनमा फल्ने, प्राङ्गारिक र सामुदायिक उत्पादनमा आधारित नेपाली कफीको स्वाद अफ्रिकाका झाडीहरूमा उत्पादन हुने कफी (अरेबिका) को जस्तै उच्च गुणस्तरको छ । वर्तमान अवस्थामा बजार मागको तुलनामा नेपालमा कम उत्पादन क्षमता भएको कुरालाई दृष्टिगत गरी यो राष्ट्रिय क्षेत्रगत रणनीतिले कफीको निर्यात सम्भाव्यतालाई अत्यधिक मात्रामा विस्तार गर्ने र मूल्यवान् जमिनलाई सामान्य गुणस्तरको कफी उत्पादनमा प्रयोग गर्नुको सट्टा उच्च पहाडी क्षेत्रमा विशिष्ट कफीको उत्पादन बढाउने कुरामा जोड दिएको छ । खासगरी विशिष्ट कफीको बजार यौटा आफ्नै किसिमको मौलिक बजार हो जो मूलतः उच्च गुणस्तर र विशिष्ट बास्नाबाट निर्देशित हुन्छ । नेपालको उच्च पहाडी भेगमा उत्पादन हुने कफीमा उच्च गुणस्तर र विशिष्ट प्रकृतिको सुवास हुने भएको कारण यसले नेपालका लागि थप निर्यात आम्दानी सुनिश्चित गर्न बजार अवसरहरूलाई खुला गरेको छ । आपूर्तिको तुलनामा माग धेरै नै रहेको कुरालाई ध्यानमा राखी यो रणनीतिले नेपाली कफीको सुस्थिर आधार स्थापना गर्न जोड दिएको छ । यसबाट कफीको मूल्य शृंखलामा आबद्ध पात्रहरूले निर्यातयोग्य उच्च गुणस्तरीय कफी उत्पादन गर्न, उत्पादन परिमाणमा वृद्धि गर्न र उचित तथा समन्वयात्मक संस्थागत सहयोगमार्फत नयाँ अन्तर्राष्ट्रिय बजारहरूमा दक्षतासाथ निर्यात गर्न सक्छन् ।

नेपालमा विगत पन्ध्र वर्षमा कफी व्यवसाय निकै मौलाएको छ । यो शताब्दीको शुरुका वर्षहरूमा केही सीमित कृषकहरूले मात्र कफी उत्पादन गर्दथे, तर सन् २०१७ सम्म आइपुग्दा करिब ३२,००० साना कृषकहरूले मुलुकका करिब ४१ जिल्लामा खासगरी पश्चिमाञ्चल क्षेत्रका मध्य पहाडी भेगमा नगदेबालीको रूपमा कफी खेती गरेका छन् । कफी श्रमप्रधान बाली हो जहाँ धेरैजसो रोजगारी कफी टिप्ने बेलामा सिर्जना हुन्छ । कफीको उत्पादनले यस क्षेत्रमा प्रत्यक्ष रूपमा संलग्न किसानहरूलाई अतिरिक्त आम्दानी प्रदान गर्नुको अतिरिक्त यसको फसल टिप्ने, प्रशोधन गर्ने खासगरी महिला, भूमिहीन र युवा किसानहरूलाई समेत थप आयस्रोत प्रदान गर्दछ । कफी उत्पादकका अतिरिक्त, करिब ३० साना उद्यमहरू कफीको प्रशोधन र बजारीकरणमा संलग्न छन् । यसका साथसाथै पर्यटकहरूलाई लक्षित गरी काठमाण्डौ र पोखरामा ठुलो संख्यामा नेपाली कफी बनाई बिक्री गर्ने पसलहरू सञ्चालनमा आएका छन् ।

सारांशमा, यो दस्तावेजले दुईवटा उद्देश्यहरूलाई पूर्ति गर्ने लक्ष्य लिएको छ । पहिलो, सरोकारवालाहरूलाई विश्व बजारको प्रवृत्ति, यस क्षेत्रको वर्तमान अवस्था र चुनौतीबारे जानकारी दिने, र दोस्रो निम्नलिखित दीर्घकालीन सोचलाई साकार बनाउन मार्गचित्र र कार्ययोजना उपलब्ध गराउने ।

निर्यात आयमा वृद्धि गर्न र ग्रामीण जनजीविकामा सुधार ल्याउन नेपाली विशिष्ट कफीको उत्पादनमा वृद्धि गरी अन्तर्राष्ट्रिय बजारमा प्रवर्द्धन गर्ने ।

उक्त दीर्घकालीन सोचलाई साकार तुल्याउन यो रणनीतिले देहायका चारवटा रणनैतिक उद्देश्यहरूमा जोड दिएको छ :

१. गुणस्तरीय कफीको उत्पादनमा वृद्धि गर्ने

वर्तमान समयमा नेपाली कफीको विश्वव्यापी मागले यसको आपूर्तिलाई उछिन्छ । नेपाली कफीको बढ्दो बजार अवसरहरूलाई उपयोग गर्न यो रणनीतिले कफीको राष्ट्रिय उत्पादन योजना बनाई कफीको उत्पादन क्षेत्रलाई बढाउने र कीटाणु तथा विषादी व्यवस्थापनलाई सहयोग उपलब्ध गराउने लगायतका कार्यक्रमहरूलाई समेटेको छ ।

यो योजनाले कफीसम्बद्ध असल कृषि अभ्यासहरूबारेमा किसानहरूलाई प्रशिक्षण प्रदान गर्ने, व्यावसायिक खेतीको विकास गर्ने, र उत्पादकत्व वृद्धि गर्न नमूना कृषकहरूको समूह बनाउने क्रियाकलापहरुलाई समेटेको छ । साथसाथै, लक्षित जिल्लाहरूमा कफीका बीउहरू आपूर्ति गर्न र कफीका बिरुवाको विकास गर्न सार्वजनिक तथा निजी क्षेत्रमा प्रमाणीकृत नयाँ नर्सरीहरू स्थापना गर्न विशिष्टीकृत अनुसन्धान केन्द्रहरूबाट सहयोग पुऱ्याइनेछ ।

२. कफी क्षेत्रमा संलग्न सहकारी संस्थाहरूको सहायता उपलब्ध गराउने क्षमतामा विकास गरी कफीको हरियो दानाको गुणस्तरमा सुधार गर्ने र प्राङ्गारिक प्रमाणीकरणको व्यवस्था गर्ने

देशमा कफी खेती तुलनात्मक रूपमा भर्खरजस्तो प्रारम्भ भएको सन्दर्भमा कृषकहरूलाई फसल टिपिसकेपछिको व्यवस्थापनका बारेमा आवश्यक ज्ञानको स्पष्ट अभाव छ । यसले कफीको हरियो दानाको गुणस्तरलाई उच्च बनाई राख्न व्यवधान सिर्जना

गरिरहेको छ । यो रणनीतिले सहकारी संस्थाहरूको कफीको प्रशोधनका सन्दर्भमा किसानहरूलाई असल अभ्यासहरू सिकाउने क्षमताको विकास गर्न तथा प्रविधिमा सुधार गरी अनुगमनयोग्य प्रणाली स्थापना गर्न सघाउने उद्देश्य राखेको छ । योजनामा प्रस्तावित क्रियाकलापहरू नेपाली अरेबिका कफीको गुणस्तर सुधार गर्ने तथा कफीको उत्पत्तिस्थलको जानकारी राख्ने दिशातर्फ निर्देशित छन् । यस अतिरिक्त, नेपाली कफीको नयाँ मौलिक बजारहरूको आवश्यकता (जसअन्तर्गत विशेष कफी रोष्टरहरू, कफी पसलहरू र विशिष्टीकृत अनलाइन खुद्रा विक्रेताहरू सबैको माग समेटिन्छन्) पूर्ति गर्न प्राङ्गारिक प्रमाणीकरण कार्यक्रम कार्यान्वयनमा ल्याइनेछ ।

३. राष्ट्रिय क्षेत्रगत विकास समन्वय सुदृढ गर्ने

नेपाली कफीको उत्पादन वृद्धि गर्न र गुणस्तरको निरन्तरतालाई कायम गरी नेपाली विशिष्ट कफीको विशेषतालाई सुनिश्चित गर्न बजार परिस्थितिले समग्र क्षेत्रगत समन्वयलाई सुदृढ बनाउन माग गर्दछ । यो रणनीतिले राष्ट्रिय कफी नीतिलाई अद्यावधिक गर्न दरिलो आधारशिला उपलब्ध गराउनेछ जसले सार्वजनिक-निजी क्षेत्रबीच साझेदारीलाई प्रवर्द्धन गरी नयाँ जिल्लाहरूमा कफी खेतीको विकास गर्न, राष्ट्रिय चिया तथा कफी विकास बोर्डको समन्वयकारी भूमिकालाई थप सुदृढ बनाउन तथा कफी अनुसन्धान केन्द्रको सहायता क्षमतालाई सुदृढ बनाउन सहयोग पुऱ्याउनेछ । यसका साथसाथै, सहकारी र साना तथा मझौला आकारका उद्यमहरूले विशेष तालिम पनि प्राप्त गर्नेछन् । यसले उत्पादकहरूलाई उनीहरूको व्यवस्थापकीय क्षमता र प्राविधिक ज्ञानलाई सुधार गर्न र यसबाट उत्पादन र गुणस्तरमा आवश्यक वृद्धि गर्न सहयोग पुऱ्याउनेछ ।

४. आन्तरिक र बाह्य बजारमा हिमाली विशिष्ट कफीको पहिचान बढाउने

नेपालको उच्च हिमाली क्षेत्रमा सानो आकारमा उत्पादन भएका र बजारमा नवीन उत्पादनका रूपमा रहेका कारण नेपाली कफीलाई अन्तर्राष्ट्रिय बजारमा बलियो तुलनात्मक लाभ उपलब्ध छ । यसो भए तापनि विशिष्ट किसिमको कफीको मौलिक बजारले मुख्यतः उच्च बास्नादारयुक्त गुण र त्यसको निरन्तरताको खोजी गरिरहेको स्थिति छ । तसर्थ, मूल्य शृंखलामा आबद्ध सरोकारवालाहरूले विशिष्ट स्थानमा उत्पादन गर्ने कुरामा मात्र सीमित नरही त्यो भन्दा पर विशिष्ट बास्नादार कफीको विकास गर्ने र समयको क्रममा नेपाली कफीको आकर्षणलाई टिकाइराख्ने तर्फ पनि जोड दिनुपर्दछ । यो रणनीतिले कफीको उत्पादनमा वृद्धि गर्ने र गुणस्तरमा सुधार गर्ने कुरासँगसँगै यसले नेपाली कफीको आन्तरिक र अन्तर्राष्ट्रिय बजारमा निर्यात प्रवर्द्धन गर्ने र मन बहलाउने कफीका विशेषज्ञहरूबाट नेपाली कफीको गुणस्तरलाई मान्यता दिलाउने कुरालाई पनि जोड दिएको छ ।

विशिष्ट लक्षणयुक्त कफी बजार र प्राङ्गारिक प्रमाणीकरण निर्यातको लागि अगाडिका बाटाहरू :

नेपालमा उत्पादन हुने कफीको विशिष्ट उत्पत्तिका कारण यसप्रति विश्वभरका विशेष व्यापारीहरू तथा उत्तरी अमेरिका, युरोप, अष्ट्रेलिया र मध्यपूर्व तथा पूर्व एशियाका साना विशिष्ट रोष्टर्सहरूको ठुलो चाख रहेको छ । यो विशेष चाखलाई दीर्घकालसम्म टिकाइ राख्न कठोर गुणस्तर मापदण्डको विकास गरी लागू गर्ने तथा नेपाली विशेषताको कफीको चिह्न (लोगो) वितरण गर्ने कार्यलाई नियमन गर्ने कुरामा यो रणनीतिले जोड दिएको छ । साथसाथै, रणनीतिले अन्तर्राष्ट्रिय कफी व्यापार मेलाहरूमा सहभागिता र मुलुकभित्र कफीको स्वादसम्बन्धमा राष्ट्रिय प्रतिस्पर्धा कार्यक्रम आयोजना गर्ने जस्ता कुराहरूलाई लक्षित गरी विभिन्न प्रवर्द्धनात्मक क्रियाकलापहरूको परिकल्पना गरेको छ । प्राङ्गारिक र स्वच्छ व्यापार (Fair Trade) कफीको बढ्दो मागलाई सम्बोधन गर्न कफीका सहकारी संस्थाहरू र निजी क्षेत्रका मापदण्ड प्रमाणीकरण गर्ने निकायहरूबीच सम्पर्क स्थापित गर्न सहजीकरण गर्नु बजारीकरणको अर्को अतिरिक्त उपाय हुनेछ ।

यो रणनीतिको उद्देश्यहरू हासिल गर्न पाँचवर्षको अवधिमा कार्यान्वयन गरिनुपर्ने शृंखलाबद्ध कार्यक्रमहरूलाई विस्तृत कार्ययोजनाले निर्देश गरेको छ, र त्यसको वरपर निर्दिष्ट र समन्वित प्रयासहरूको खाँचो पर्दछ । यी प्राथमिकताका कार्यहरू पहिचान गर्न सार्वजनिक तथा निजी क्षेत्रका सरोकारवालाहरूसँग व्यापक परामर्श गरिएको छ र यो कार्य संवाद मञ्च र यस क्षेत्रका अन्तरङ्ग व्यक्तिहरू सम्मिलित टिमको स्थापनाबाट सम्भव भएको छ । नीति-निर्माताहरू, सहयोगी संस्थाहरू, उद्यमी-व्यवसायीहरू, नागरिक समाजका संस्थाहरू र विकास साझेदारहरूबीचको यो सहकार्य प्रस्तुत नीतिको प्रभावकारिता र उच्च प्रभावहरूको सुनिश्चितताको लागि कार्यान्वयन चरणमा पनि निरन्तर रहिरहनुपर्दछ । कार्यान्वयन संरचना खाकाले व्यवस्थित व्यवस्थापन, अनुगमन तथा मापन संयन्त्रहरूलाई परिभाषित गर्छन् जसले नेपाल व्यापार एकीकृत रणनीति (२०१६) मा पहिचान गरिएका विषयहरूको कार्यान्वयनमा समेत सहयोगी भूमिका खेल्छन् । यो संरचना खाकाको कार्यान्वयनले प्रस्तुत रणनीतिको कार्यान्वयनको सफलताको मापनलाई निर्धारण गर्छन् ।

यो रणनीतिको कार्यान्वयनले मूल्य शृंखलामा आबद्ध व्यक्तिहरूलाई नेपाली कफीको उत्पादन र गुणस्तरमा वृद्धि गर्न सहयोग पुऱ्याउन एकैठाउँमा ल्याउनुको अलावा यसले ग्रामीण क्षेत्रका हजारौँ परिवारको आर्थिक कल्याणलाई क्रमशः अभिवृद्धि गर्न, मुलुकको वैदेशिक मुद्रा आर्जनलाई बढाउन र साथसाथै यो क्षेत्रको वातावरणीय र सामाजिक दिगोपना कायम गर्न समेत मद्दत पुऱ्याउँछ ।



Photo: ITC

EXECUTIVE SUMMARY

The character of Nepali coffee intrigues speciality coffee traders and gourmet coffee shops in various countries. Its special appeal lies in its highly exotic origin, located outside the traditional tropical zone of the coffee belt, and its high-altitude, organic, community-based production of arabica. Given existing demand and the relatively small production capacity, this national sector export strategy aims to maximize coffee's export potential and develop speciality coffee production rather than devoting precious land to growing standard coffee. Speciality coffee is a niche market driven by premium quality and unique aroma. This opens up market opportunities commanding higher export earnings for Nepal. Keeping in mind that demand significantly outweighs current supply, the Strategy focuses on establishing a stable base from which value chain actors can produce quality exports, increase the volume of production and –with proper coordinated institutional support– efficiently export to new international markets.

The sector has flourished over the past 15 years in Nepal, and is one of the prioritized sectors in the Nepal Trade Integration Strategy (NTIS) 2016. At the beginning of this century only a few farmers grew coffee, but in 2017 about 32,000 smallholders grow coffee as a cash crop in about 41 districts of the mid hills, mostly in the western region. Coffee is a labour-intensive crop where most employment is generated during the harvesting season. It provides additional income not only to farmers directly engaged in production but also to those that are involved in harvesting and processing, especially women, the landless and young farmers. In addition to the coffee growers about 30 small entrepreneurs are involved in coffee processing and marketing, as well as multiple coffee shops targeting the tourist market in Kathmandu and Pokhara.

In sum, this document aims to serve two purposes: firstly, inform stakeholders of world market trends, the status of the sector and its challenges; and secondly, provide a roadmap and a plan of action (PoA) geared at achieving the following overall vision:

> "Raise production and promote Nepali speciality coffee in international markets to boost export revenues and improve rural livelihoods"



Photo: ITC, *Coffee beans*

To achieve this vision, the Strategy focuses on four strategic objectives.

1. Increase production of quality coffee cherries.

Current demand for Nepali coffee in the world market outweighs supply. In order to capture market opportunities, the Strategy focuses on expanding coffee production areas by developing a national production plan supported by a pest and disease management programme. The plan includes training of farmers on coffee-specific Good Agricultural Practices (GAPs), development of commercial farming and the piloting of farmer clusters to increase productivity. Simultaneously, specialized research centres will assist in the development of new public and private certified nurseries to supply seedlings to orchards in targeted districts.

2. Develop the support capacities of cooperatives to improve green bean quality and develop organic certification.

Given the relatively recent introduction of coffee in the country, farmers clearly lack knowledge about postharvest management, hindering green coffee bean quality. The Strategy aims to reinforce the capacities of cooperatives to disseminate best practices in processing while upgrading technology and setting up traceability systems. Actions are orientied to improving the quality of Nepali arabica coffee. Additionally, an organic certification programme will be established to meet the demand of niche markets comprising speciality coffee roasters, coffee shops and specialized e-retailers.

3. Strengthen national sector development coordination.

Increasing the total production of Nepali coffee and satisfying quality consistency to ensure 'speciality coffee' market status requires a reinforcement of overall sector coordination. The Strategy provides the foundation to update the national coffee policy by way of fostering public–private partnerships to develop plantations in new districts, reaffirm the coordination role of the National Tea and Coffee Development Board (NTCDB) and strengthen the support capacities of the Coffee Research Centre (CRC). In parallel, cooperatives and small and medium-sized enterprises will receive specific training. This in turn will enable producers to improve their management capacities and technical knowledge, thereby achieving the necessary growth in production and quality.



Photo: ITC, *Espresso machine*

4. Develop Himalayan speciality coffee recognition in domestic and foreign markets.

The Himalayan origin characterized by high altitute small-scale production and market novelty gives Nepali coffee a solid comparative advantage in the international market. Nevertheless, the speciality niche market is primarily looking for top quality aroma and consistency. Thus value chain stakeholders must build beyond the exotic origin and develop unique aromas to sustain the attractiveness of Nepali coffee over time. Just as the Strategy aims to increase production and improve quality, it will also reinforce export promotion in domestic and international markets and obtain quality recognition from speciality and gourmet coffee specialists.

The speciality coffee market and organic certification for exports are the way forward: The exotic origin of Nepal already generates worldwide interest from speciality traders and small speciality roasters in North America, Europe, Australia, the Middle East and East Asia. To sustain this appeal in the long term, the Strategy is geared at reinforcing the development of strict quality standards to control awarding the Nepali speciality coffee logo and ensure the building of a solid international reputation for quality. In parallel, the Strategy envisions targeted promotional activities focusing on international coffee trade fairs and the organization of national cup tasting competitions. Facilating linkages between cooperatives and private-standard certification agencies will be an extra marketing tool to respond to the growing demand for organic and fair trade coffee.

Achieving the objectives of this Strategy requires a focused and coordinated effort around the detailed PoA that specifies a series of activities to be implemented during the five-year lifetime of this Strategy. A great deal of consultation with public and private sector stakeholders has taken place to identify these strategic thrusts, and this is visible through the dialogue platform and the sector's Core Team that have been established. This collaboration among policymakers, support institutions, enterprises, civil society organizations and development partners must continue during the implementation phase of the Strategy to ensure effectiveness and maximum impact. The implementation framework defines systematic management, monitoring and measurement mechanisms that are complementary to those identified in the Nepal Trade Integration Strategy (NTIS) 2016. Operationalizing this framework will determine the degree of success of this Strategy.

Implementation of this Strategy will not only bring value chain actors together in cooperation to increase Nepali coffee production and quality, it will increasingly improve the well-being of thousands of rural families and contribute to the country's foreign exchange earnings while raising the environmental and social sustainability of the sector.

THE PRODUCT MAP

Coffee is (one of) the most traded agricultural products in the world. Usually, international prices are based on the International Terminal Markets in New York (arabica)[1] and London (robusta).[2] Unless stated otherwise, all topics discussed in this Strategy pertain to green (unroasted) coffee because it is very difficult, if not impossible, to export roasted coffee. Exceptions might be to export roasted coffee to regional markets or through Internet sales directly to final consumers.

Given the existing production capacity of Nepali coffee, the focus should be on the 'speciality' coffee market rather than the international coffee commodity market. There is no general accepted definition of speciality coffee. However, the Speciality Coffee Association of America (SCAA) has provided this definition: 'Speciality coffee' refers to the highest-quality green coffee beans roasted to their greatest flavour potential by true craftspeople and then properly brewed to well-established SCAA developed standards'. Speciality coffee in the green bean state can be defined as: 'A coffee that has no defects and has a distinctive character in the cup, with a score of 80 or above when graded according to SCAA Standards.'[3] The definition also defines brewing, cupping, grading and defects of coffee. According to other definitions, the origin (Nepal is outside the tropical zone; see figure 22) or social conditions in the production region of the coffee can also make it special, or its certification (e.g. organic).

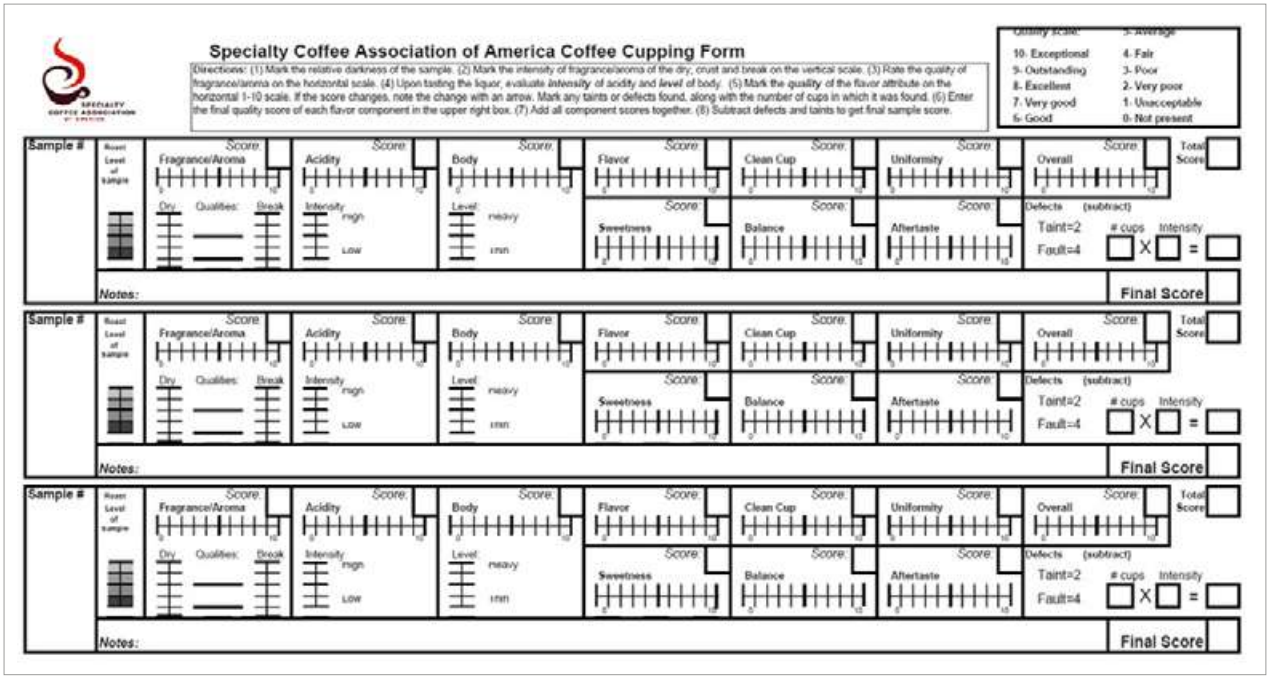
Whether Nepal falls within the SCAA definition remains to be seen, but it can be considered a speciality coffee because it comes from the very special Himalaya region and people are always interested in new and exotic origins. There is already some international trade in Nepali coffee at rather high prices, far above international prices.

1. Intercontinental Exchange. Coffee C ® Futures product specification. Retrieved from www.theice.com/products/15.

2. Intercontinental Exchange. Robusta Coffee Futures product specification. Retrieved from www.theice.com/products/37089079.

3. See also: Speciality Coffee Association of America (2015). SCAA Protocols: Cupping Speciality Coffee. www.scaa.org/?page=resources&d=cupping-protocols.

Figure 1: *Coffee cupping form used by Q Graders to evaluate and rate coffee samples*



Source: SCAA

GLOBAL TRENDS[4]

GLOBAL PRODUCTION AND CONSUMPTION OF COFFEE IN GENERAL

Table 1: *Top 10 coffee exporting countries 2013 and 2016 (in thousand 60 kg bags)*

Country	2013	2016	CAGR (%)
World	152 130	151 624	-0.11
Brazil	54 698	55 000	0.18
Viet Nam	27 610	25 500	-2.62
Colombia	12 163	14 500	6.03
Indonesia	11 265	10 000	-3.89
Ethiopia	6 527	6 600	0.37
Honduras	4 578	5 938	9.06
Peru	4 338	3 800	-4.32
Uganda	3 633	3 800	1.51
Guatemala	3 189	3 500	3.15
Mexico	3 916	3 100	-7.49

Source: International Coffee Organization, data as of March 2017.

4. Note from the author: given the relatively young development of the coffee sector in Nepal and limited exposure to the international coffee market, the section on 'Global trends' provides detailed background information about the coffee trade in order to further develop the knowledge of sector stakeholders.

Brazil has been the world's biggest producer for a very long time, while Viet Nam emerged as the second producer in the 1990s after the economic reform following the end of the Viet Nam War. Colombia has come back to third place among arabica producers after a very large replanting programme,[5] where 'old' varieties were replaced by the modern cultivar 'Castillo'.[6]

Global production

World coffee production decreased slightly (0.11% compound annual growth rate (CAGR)) between 2013 and 2016. Production of arabica increased by 1.83% to 95 million 60 kg bags while robusta production decreased by 3.08% to 56 million 60 kg bags. The top three exporting countries – Brazil, Viet Nam and Colombia – account for 62.65% of the world total of coffee exports (see table 1). The majority of exports of coffee come from South America – Brazil, Colombia and Peru – and Asia (Indonesia and Viet Nam), all in all accounting for 77.51%.[7]

5. Coffee & Cocoa International (C&CI) (2016). Colombia Produces 944,000 Bags of Coffee in March. Retrieved from www.coffeeandcocoa.net/2016/04/18/colombia-produces-944000-bags-coffee-march/.

6. Pinnell, D. (2015). Coffee Talk: Castillo. *The Speciality Coffee Chronicle*. Retrieved from www.scaa.org/chronicle/2015/03/10/coffee-talk-castillo/.

7. International Coffee Organization (2017). Total production by all exporting countries. Retrieved from http://www.ico.org/prices/po-production.pdf.

Table 2: *Top 10 countries for coffee consumption, 2012/13 and 2015/16 (in thousand 60kg bags)*

Countries	2012/13	2015/16	CAGR (%)
World	146 977	155 713	1.94
EU	41 662	42 887	0.97
United States	23 268	25 341	2.89
Brazil	20 330	20 500	0.28
Japan	7 353	7 790	1.94
Indonesia	3 900	4 500	4.89
Russian Federation	3 521	4 303	6.91
Ethiopia	3 400	3 700	2.86
Canada	3 510	3 535	0.24
Philippines	2 325	3 000	8.87
Mexico	2 354	2 354	0.00

Source: International Coffee Organization, data as of March 2017.

Global consumption

Global coffee consumption was 155.7 million 60kg bags in 2015/16 with a CAGR of 1.94% for the past four years (2013–2016). Looking at the top two countries in table 2, the EU and United States account for 43.82% of world coffee consumption. On the other hand, around 31% of total coffee consumption occurs in exporting countries and 42.48% of this is in Brazil.[8]

GLOBAL TRADE

Coffee is a popular beverage and a heavily traded commodity. In 2015, more than 7,881,000 tons of coffee were imported worldwide, for an imported value of approximately US$30.6 billion. As illustrated in figure 2, the volume of coffee imports grew steadily at an annual rate of 3% between 2001 and 2015, while the value increased dramatically. World coffee imports in value multiplied by a factor of six from US$6.3 billion in 2001 to US$36.6 billion in 2011 and then slightly dropped to roughly US$30 billion. Despite the fluctuations observed between 2010 and 2013, the increase in global coffee imports in value terms has been strong over the past 15 years, growing at a CAGR of 10% between 2001 and 2015.

On the supply side, such a dramatic change in imported value – which derives from coffee price volatility – can be explained by poor harvests caused by unfavourable weather conditions (in Central America, 24% of production lost since 2011),[9] the threat of climate change in producing countries and price speculation in coffee future markets. On the demand side, strong demand is driven largely by increased consumption in emerging markets such as China, Brazil, Indonesia and India, and by continued strong demand from traditional markets, particularly in North America and Japan. However, consumption in emerging markets and exporting countries will be dependent on economic growth.

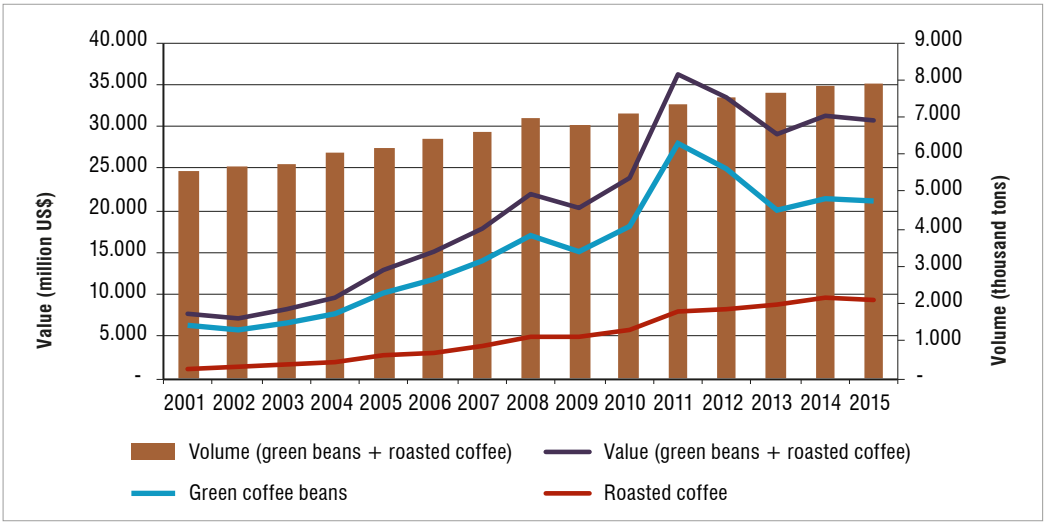


Photo: ITC

8. International Coffee Organization (2017). World coffee consumption. Retrieved from http://www.ico.org/prices/new-consumption-table.pdf.

9. International Coffee Organization. World Coffee Market Outlook. *Slide 17.* Retrieved from http://www.ico.org/news/march-ico-outlook.pdf.

Figure 2: *Global coffee imports, 2001–2015*



Source: ITC, Trade Map database <www.trademap.org>.

Although coffee can be classified into different types based on various criteria, within the framework of this Strategy coffee will be broken down into two categories depending on the production phase in order to fully understand the supply chain of global coffee trade. The two categories are green coffee beans (Harmonized System (HS) 090111 and 090112)[10] and roasted coffee (HS 090121 and 090122).[11]

10. This category includes coffee products under HS 090111 – Coffee (excl. roasted and decaffeinated) and 090112 – Decaffeinated coffee (excl. roasted).

11. This category includes coffee products under HS 090121 – Roasted coffee (excl. decaffeinated) and 090122 – Roasted, decaffeinated coffee.

Box 1: International futures markets for coffee

There are two ways green coffee beans can be traded: physically sold on the spot market or traded on international futures markets. These exchange markets include the New York Intercontinental Exchange (ICE Futures US), New York Board of Trade (acquired by ICE Futures US in 2007), NYSE Euronext (acquired by ICE Futures US in 2012), New York Mercantile Exchange, Tokyo Grain Exchange and London International Financial Futures and Options Exchange. Among these, ICE Futures US and the London Stock Exchange dominate world trade, constituting the benchmark for world coffee prices. Recently, local exchange markets such as the Nairobi Coffee Exchange, the Ethiopia Commodity Exchange and the Brazilian Mercantile and Futures Exchange have emerged as alternative futures markets to ICE Futures US and the London Stock Exchange.

Consumers and producers of coffee can manage coffee price risk by purchasing and selling coffee futures. These coffee futures markets serve as instruments among consumers and producers to manage coffee price risk or to lock in a selling price by purchasing and selling future coffee.

Coffee futures are also traded by speculators to profit from favourable coffee price movement. Speculators buy coffee futures when they believe that coffee prices will go up and sell coffee futures when they think that coffee prices will fall. For small export-oriented producers, market price at the terminal markets in New York and London can help them move upward in the value chain and be better informed about current coffee prices.

Source: Fairtrade and Coffee Briefing & ICE Coffee Brochure.

Global trends in green coffee

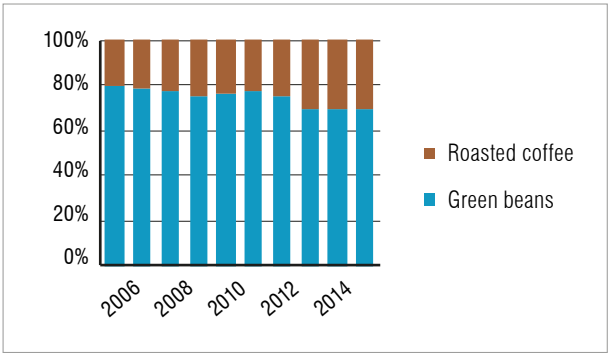
Green coffee refers to the dried beans which come from the cherries that have been cleaned, fermented, hulled and turned into unroasted green coffee beans ready for export. The global green coffee market stood at approximately US$21 billion in 2015, accounting for 70% of the global trade in coffee.

Trade patterns for green coffee can be summarized by the flow of exports from developing countries to industrialized countries. Over 90% of green coffee production and exports take place in developing countries. Latin America, Asia and Africa are the largest coffee exporting regions, accounting respectively for 56%, 20% and 10% of world exports in 2015. Brazil is the world's leading coffee producer and exporter, accounting for 27% of green coffee exports, followed by Colombia (12%), Viet Nam (12%), Indonesia (6%) and Ethiopia (5%).

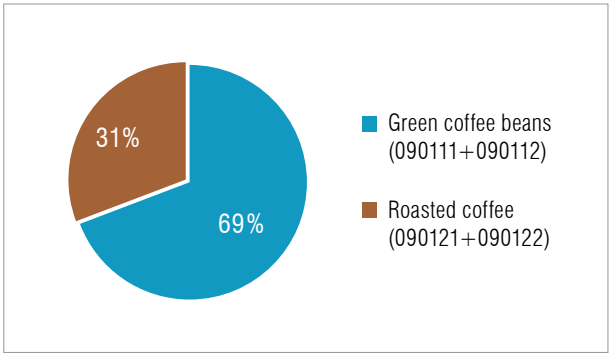
Europe and North America are the traditional coffee consumption markets and constitute the main importing markets for green coffee, together accounting for 79% of global imports in value terms (US$25 billion). As seen in table 3, the United States is the leading green coffee importer, accounting for 25% of world green coffee imports, followed by Germany (13%), Italy (7%), Japan (7%) and Belgium (4%).

Figure 3: *Share of coffee imports between green coffee beans and roasted*

Share of coffee imports between green and roasted, 2006–2015

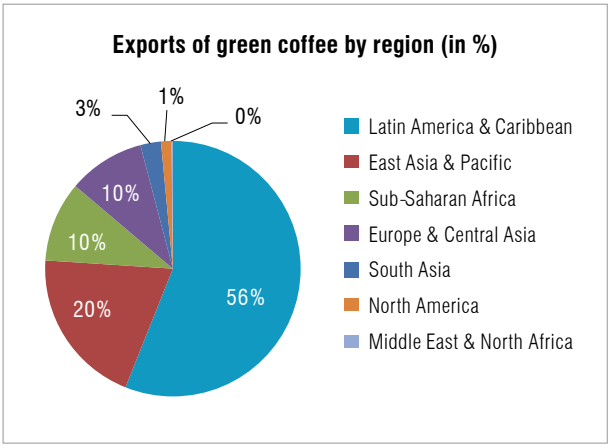


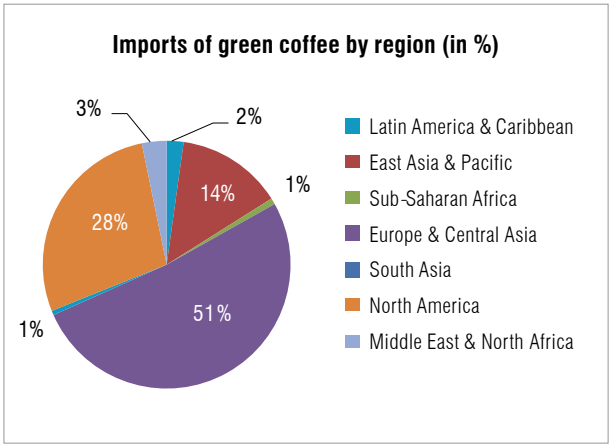
Share of coffee imports between green and roasted, 2015



Source: ITC, Trade Map database <www.trademap.org>.

Figure 4: *Global trade of green coffee by region, 2015 (HS 090111 and 090112)*[12]





Source: ITC Trade Map 2016.

12. Calculated based on exported and imported values from Trade Map.

Box 2: Growing trend of green coffee trade at the consumer level

While the majority of green coffee beans are traded in bulk, it is worth noting that they are increasingly traded at the consumer level in Europe. Although this trade accounts for only a very small fraction of the market, it aligns with the trend towards home-roasting/on-site roasting, especially related to the growing preference for speciality coffee. Most of this trade is realized through the Internet in small packaging sizes, and it is usually linked to dealers of coffee roasting machines.

Source: CBI Trends: Coffee in Europe.

Table 3: *Top five exporters and importers of green coffee by value (HS 090111 and HS 090112)*

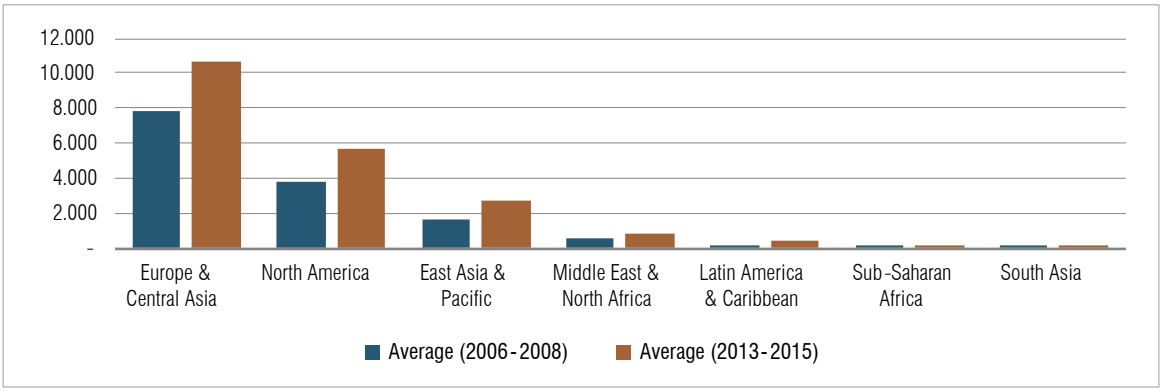
Exporters of green beans	Exports 2015 (US$ millions)	Exports 2015 (thousand tons)	Share (%)	5-year CAGR (%)	10-year CAGR (%)
World	20 625	7 073		-7	7
Brazil	5 555	2 005	27	-9	7
Colombia	2 534	713	12	-1	6
Viet Nam	2 501	1 214	12	-2	8
Indonesia	1 190	500	6	4	8
Ethiopia	1 018	234	5	5	34

Importers of green beans	Imports 2015 (US$ millions)	Imports 2015 (thousand tons)	Share (%)	5-year CAGR (%)	10-year CAGR (%)
World	21 170	6 892		-7	7
United States	5 239	1 463	25	-7	7
Germany	2 768	1 033	13	-12	3
Italy	1 565	533	7	-3	8
Japan	1 488	435	7	-7	5
Belgium	863	281	4	-12	7

Source: ITC, Trade Map database <www.trademap.org>.

Emerging markets have seen a growing demand for green coffee beans. Asia, the Middle East and Latin America remain relatively small markets compared with Europe and North America but have exhibited rising demand for green coffee in recent years. These regions recorded 6%, 7% and 15% CAGRs respectively for imports of green coffee between 2008 and 2015.

Figure 5: *Imports of green coffee (HS 090111 and HS 090112), 2006–2008 and 2013–2015*



Source: ITC, Trade Map database <www.trademap.org>.

Global trends in roasted coffee

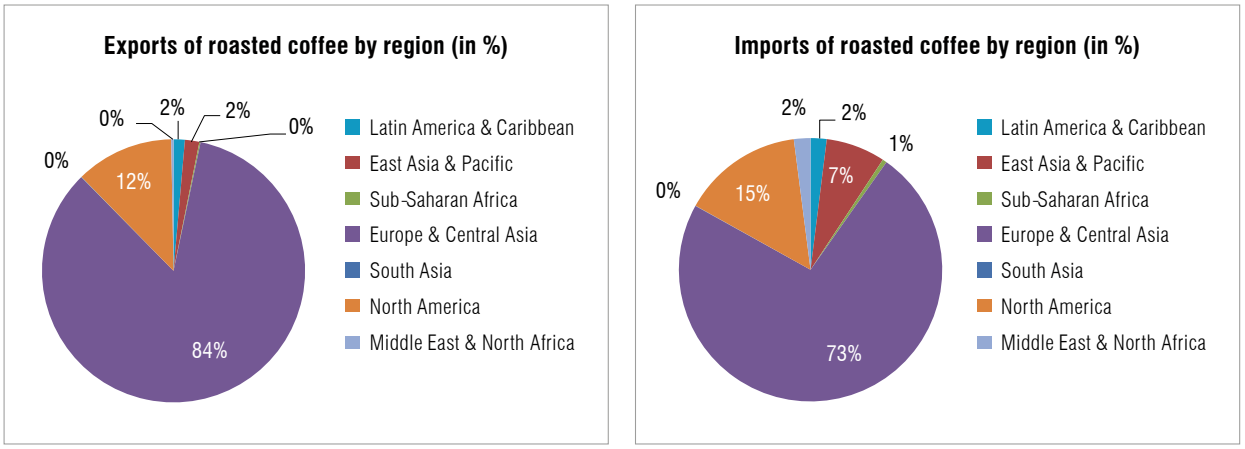
While roasted coffee accounted for only approximately 30% of the global coffee market in 2015 (see figure 2), its global trade has risen continuously and substantially over the past 15 years at an average annual rate of 16%, reaching US$9.4 billion in 2015.

As illustrated in figure 6, Europe and North America dominate the exporting and importing markets of roasted coffee, re-exporting a significant amount of roasted coffee. These countries are typically re-exporters, importing green coffee from producing and primary exporting countries, undertaking value adding activities and re-exporting the coffee. Table 4 provides further details about current leading exporters and importers of roasted coffee. Switzerland is the leading exporter of roasted coffee by value, accounting for 21% of market share in the world, followed by Italy (14%), Germany (12%), the United States (8%) and France (7%). France is the largest importer of roasted coffee (19%), followed by the United States (8%), Germany (7%), Canada (6%) and the Netherlands (6%).



Photo: ITC

Figure 6: *Global trade of roasted coffee by region, 2015 (HS code 090121 and 090122)*



Source: ITC, Trade Map database <www.trademap.org>.

Table 4: *Top five exporters and importers of roasted coffee by value (HS 090121 and HS 090122)*

Exporters of roasted coffee	Exports 2015 (US$ millions)	Exports 2015 (thousand tons)	Share (%)	5-year CAGR (%)	10-year CAGR (%)
World	9 864	1 072.5		3	14
Switzerland	2 024	60.4	21	4	33
Italy	1 362	175.8	14	3	9
Germany	1 216	201.8	12	0	9
United States	759	89.6	8	-2	9
France	691	26.3	7	17	26

Importers of roasted coffee	Imports 2015 (US$ millions)	Imports 2015 (thousand tons)	Share (%)	5-year CAGR (%)	10-year CAGR (%)
World	9 382	1 042.5		4	13
France	1 763	128.8	19	9	16
United States	789	75.2	8	1	13
Germany	635	77.7	7	-4	9
Canada	604	68.8	6	-2	8
Netherlands	529	67.7	6	1	15

Source: ITC, Trade Map database <www.trademap.org>.

Box 3: Global trade in organic coffee

The trend that dominates the coffee sector is the growing attention to sustainability and speciality coffee. The sector has transformed from a principally 'bulk' market to a market increasingly characterized by awareness of the implications of climate change, sustainability requirements in mainstream markets and new consumer demands.

According to Euromonitor International's Health and Wellness database, global organic coffee retail sales stood at around US$1.1 billion in 2014, accounting nonetheless for a small fraction of the overall coffee market of US$31 billion. The global organic coffee market is highly fragmented. Starbucks led the organic coffee category in 2014 with a retail value share of 8%. However, strong competition from other brands has pushed Starbucks' share down over the past few years. Kicking Horse Coffee ranks second with a 7% share. Private label organic coffee, offering affordable premium products, is strong with a 19% share. Established brands such as Gevalia and Merrild also hold noticeable positions in the organic world. Nespresso and Nescafé, however, do not seem to be focusing on developing organic variants. Nestlé has other sustainability programmes, such as its partnership with the Rainforest Alliance (RA). Some smaller coffee pod brands are emerging and are being marketed as organic coffee and Nespresso-compatible, which may attract some Nespresso consumers' attention. In consumers' minds, the current status of organic coffee pods appears to be as a niche product which is nice to have rather than being a must.

Source: Euromonitor International.

EMERGING TRENDS IN THE GLOBAL MARKET

In developed and emerging markets, it can be observed that with increasing incomes, consumers are willing to spend more on the coffee they consume. In all of these markets consumers are looking for more premium products and after that they are concerned about their own health and about the sustainability of coffee production in countries of origin. This development can be seen not only in the West but also in countries like India, China and Indonesia. A threat to this trend is economic recession.

Trends in the coffee sector can be understood better with the concept of the three 'coffee waves'. This concept very much reflects the North American situation but it had and has a very strong influence on other markets as well, such as Europe (the United Kingdom of Great Britain and Northern Ireland[13]) and East Asia, and it has led to many small roasters looking for high quality coffees, recognition of baristas and attention to precise and sophisticated brewing of coffee, among other developments.

Three 'coffee waves'[14]

The first wave can trace its roots back to the 1800s, when entrepreneurs saw a market for providing coffee that was both affordable and 'ready for the pot'. Coffee brands like Folgers and Maxwell House quickly became household names across the United States. This first wave receives criticism for sacrificing taste and quality[15] to promote convenience and mass production. While the quality of the mass marketed brew may be frowned upon, the innovations in processing, packaging and marketing would allow the coffee industry to skyrocket into the future.



13. Strong increase in coffee consumption and strong decline in tea consumption!

14. Coffee Kind (2013). The Three Waves of Coffee. Retrieved from www.coffeekind.com/reading-room/the-three-waves-of-coffee.

15. By the way: The quality of American coffee deteriorated in the first wave to a much lower level than in Europe, where, in general, reasonable consumer quality was maintained.

- Vacuum packaging was a major innovation to prevent ground coffee from becoming stale.
- Instant (or soluble) coffee was a major innovation with respect to convenience.
- Big familiar brands came with standardized cheap blends with robusta at an affordable price, like 'Aroma Rood' from Douwe Egberts,[16] the Dutch multinational roaster.
- The automatic drip home coffee machine was another major innovation. These machines can still be found in many households.



The second wave was a reaction to the cheap, 'bad quality' from the first wave. Consumers expressed a desire to know the origin of their coffee and understand the unique roasting styles of what will now be called 'speciality coffee' beans. Words like espresso, latte, and French press became common among lovers of speciality coffee. The criticism of the second wave is that it lost its way, forsaking the source of the bean for the social experience of drinking coffee. Coffee shops became big business, luring consumers to a brick-and-mortar shop to drink their favourite coffee beverage. The coffee business most often associated with illustrating second wave coffee is Starbucks. Starbucks became the poster child for the second wave, not only giving speciality coffee its own language but making it social by introducing the masses to the coffee shop experience. Second wave entrepreneurs began to follow the Starbucks model and create havens for enjoying coffee all across the world. The social experience of drinking coffee became more important than the artisan process of producing coffee.



Social experience in coffee shops

16. www.douweegbertsprofessional.com/en/global/.

'French press' method of brewing coffee www.enjoybettercoffee.com/French-Press-s/183.htm



French press coffee

The third wave is characterized by coffee lovers interested in the character of the coffee itself. Sometimes this movement is more of a reaction against bad coffee and the way bad coffee has been promoted. While marketing and social aspects are still important in third wave growth, they are not the driving force. Look at it this way: in the first wave, the consumer led the way. It was all about availability to the masses on a national scale. With the second wave, the coffee was better but marketing the experience was the driving force. With the third wave, production and marketing take the back seat and the product takes centre stage. Third wave coffee treats coffee beans as an artisanal ingredient and seeks to convey the flavour in the brewed coffee.

- 'Terroir', harvest, processing style, roast date, coffee variety and tasting notes.
- Coffee, in all of its processes, from the origin of the harvested bean to the roasting and brewing process, is treated with the same reverence as fine wine.



Brewed coffee: Water seeps through the ground coffee, the paper filter, and is then collected in a container placed below a holder used for drip brewing.

Fourth wave?

Some people assert there is now even a fourth wave:[17] a new focus on the whole coffee experience, from farming operations through roasting and brewing. In all these stages the most advanced methods are used and continuously improved. In addition, the barista's job has started becoming an art. There is also a focus on low- or non-pressurized brewing methods to allow for tasting more flavours.[18]

Speciality coffee

The start of speciality coffees was in the 'second wave': consumers began drinking and purchasing specific, preferred origins of coffee. SCAA was founded in 1982 and subsequently similar associations emerged in Europe (Speciality Coffee Association of Europe (SCAE)), Japan and other countries. SCAA was established by a small group of coffee professionals seeking a common forum to discuss issues and set quality standards for the speciality coffee trade. SCAA is now the world's largest coffee trade association with nearly 2,500 company members. The SCAA Expo, held every year in a different city in the United States, is very important.[19]



The Cup of Excellence[20] is an annual competition held in several countries to identify the highest quality coffees produced. It is organized by the Alliance for Coffee Excellence. The winning coffees are sold in Internet auctions. The concept was developed by the Gourmet Coffee Project of the International Coffee Organization and aims to develop methodologies for the creation of new 'gourmet' or high quality speciality coffees. The Cup of Excellence competition has been dubbed the 'Oscars of the coffee world' and began in 1999. It could be a good idea for Nepal but not earlier than around 5–10 years from now.

Brewing sophistication

Instead of the widely used paper filter method (or 'drip brewing'), other methods of coffee brewing are being experimented with, for instance Chemex,[21] pourover (see pictures), siphon, Filtron, French press,[22] Aeropress and others. 'Cold brew'[23] is the latest fashion.







Brewed coffee

Sustainability and certification

Since the 1980s, people have become more concerned about the way their food is produced.[24] The effects of agrochemicals on the health of producers and consumers, and on the environment, gave rise to an 'organic movement', resulting in standards, certification and legislation. Similar concerns about socioeconomic conditions initiated the fair trade movement, which also led to standards, certification and logos. At a later stage, standards trying to combine environmental, social and

17. Sprudge (2016). Forget the Fourth Wave, We Live in Coffee's New Wave. Retrieved from http://sprudge.com/forget-the-fourth-wave-this-is-coffees-new-wave-91908.html.

18. Sprudge (2014). It's Denver Post Official: Coffee Is Riding the Fourth Wave. Retrieved from http://sprudge.com/denver-post-official-coffee-riding-fourth-wave-51898.html.

19. www.scaaevent.org.

20. www.allianceforcoffeeexcellence.org/en/cup-of-excellence/.

21. www.chemexcoffeemaker.com/brewing-product-care-instructions.

22. www.georgehowellcoffee.com/brew-guide/.

23. Jobst, Merlin (2014). How to make cold brew coffee. *Jamie Oliver website,* Retrieved from www.jamieoliver.com/news-and-features/features/how-to-make-cold-brew-coffee/.

24. International Trade Centre (2011). Trends in the Trade of Certified Coffees. *Technical Paper,* p.3. Retrieved from www.intracen.org/Trends-in-the-trade-of-certified-coffees/.

economic aspects in one system[25] emerged, with RA and UTZ Certified being examples as well as 4C (more a 'verification' than a certification). Starbucks and Nespresso made their own private company standards.[26] Organic and fair trade products remained in market niches while UTZ Certified and RA were adopted by major (multinational) brands. The rise in sustainable coffee worldwide exports for each private standard is illustrated in figure 7.

According to the Coffee Barometer,[27] 40% of global coffee production was certified according to one or more of these standards in 2013 (2.5 times that of 2010). Nonetheless, the same report indicates that only 15% of global production was actually purchased as certified or verified; not all sustainably produced coffee matches the taste and origin profiles of specific buyers. It should also be noted that the statistics do not precisely reflect the market situation, since companies frequently handle double or triple certification schemes for the same coffee. For instance, a lot of Fairtrade certified coffee is also organic.

25. Panhuysen, S. and Pierrot, J. (2015). Coffee Barometer 2014. *Hivos*. Retrieved from https://hivos.org/sites/default/files/coffee_barometer_2014.pdf.

26. Europe: http://ec.europa.eu/agriculture/organic/ U.S.:www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=organic-agriculture.html.

Japan: www.maff.go.jp/e/jas/specific/organic.html.

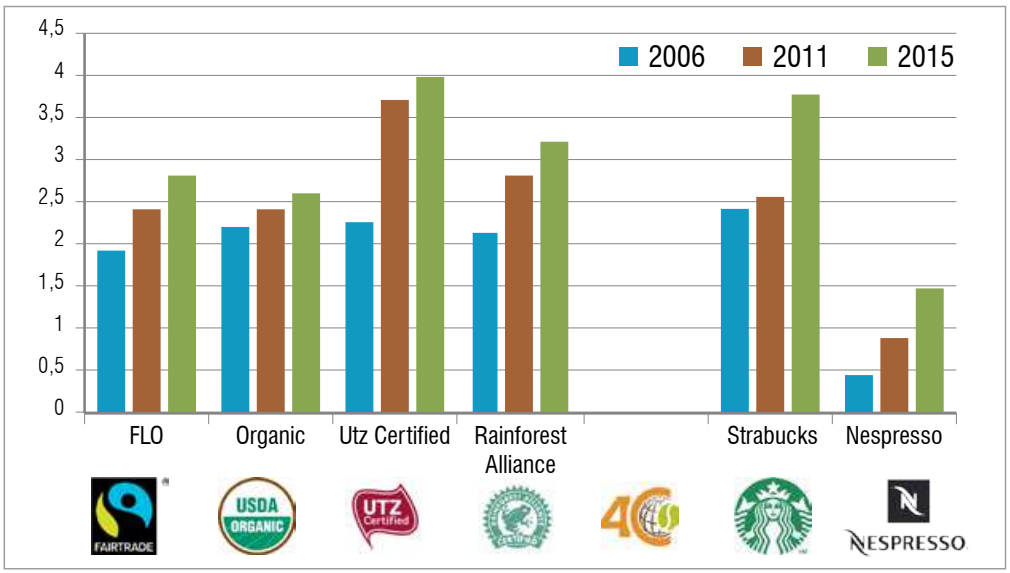
Fairtrade International: www.fairtrade.net, www.rainforest-alliance.org, www.ethicalteapartnership.org, www.utz.org, www.starbucks.com, www.nespresso.com.

27. Panhuysen, S. and Pierrot, J. (2015). Coffee Barometer 2014. *Hivos*. Retrieved from https://hivos.org/sites/default/files/coffee_barometer_2014.pdf.



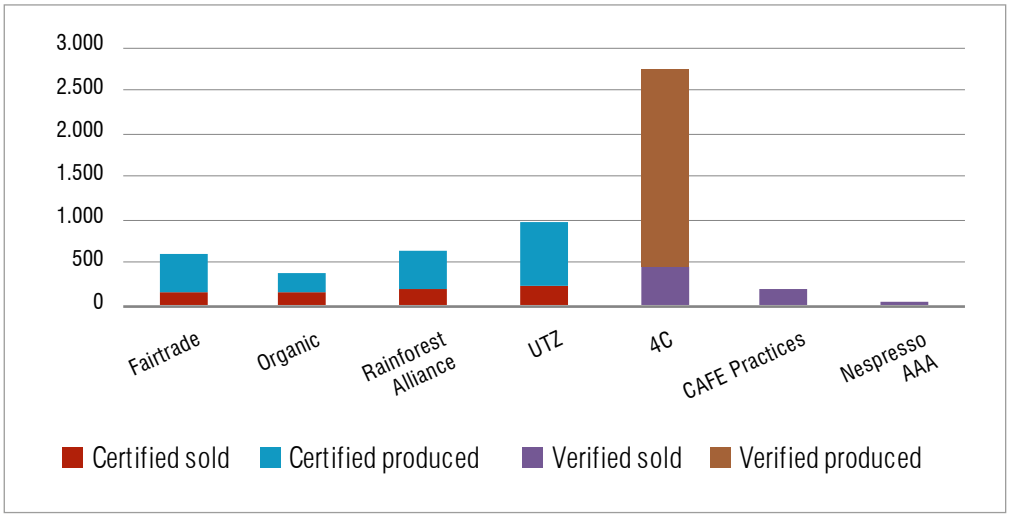
Photo: ITC, *Coffee grinder in cooperative*

Figure 7: *Volumes of exports of certified green coffees in 2011–2015 (million 60kg bags)*



Source: Various sources

Figure 8: *Global sustainable production of coffee beans, 2013 (1,000 tons)*



Source: Coffee Barometer 2014.[28]

28. 'Café Practices' is the private certification of Starbucks.

A certain category of consumers is prepared to pay (a little bit) more for certified coffee.[29] Export prices for organic and Fairtrade are about 20–30% above market level; for other certifications lower premiums are paid. Costs of certification and the real impact on the ground[30] for producers[31] and the environment have remained under debate ever since the birth of standards and certification. Producers do not always receive the premium that they could expect on the basis of the extra work and costs they bear to obtain a certification. The effect of climate change on the sustainability of coffee production is also a topic receiving more and more attention.[32] Another ongoing discussion is whether large commercial estates can sustain coffee production, given high costs and less favourable labour conditions.[33]



Logos of certified organic (EU, Japan, United States), certified Fairtrade, RA, UTZ Certified, 4C, Starbucks and Nespresso.[35]

29. UTZ (2016). Do consumers really care about sustainability? Retrieved from. www.utz.org/better-business-hub/marketing-sustainable-products/consumers-really-care-sustainability/?utm_source=BBHnews&utm_medium=mailchimp&utm_term=all&utm_content=consumerscare&utm_campaign=PQ&utm_source=UTZ+BBH+News&utm_campaign=6b3d12acbf-UTZ_BBH_mailing+2-8-2016&utm_medium=email&utm_term=0_dddf0d3f62-6b3d12acbf-204500161.

30. Committee on Sustainability Assessment (COSA) website: https://thecosa.org/.

31. Hodal, K. (2016). Nestle admits slave labour risk on Brazil coffee plantations. *The Guardian*. Retrieved from www.theguardian.com/global-development/2016/mar/02/nestle-admits-slave-labour-risk-on-brazil-coffee-plantations.

32. Kasterine, A. (2012). Coffee and Climate Change – a new Guide from ITC. *International Trade Centre*. Retrieved from www.intracen.org/archive/news/Coffee-and-Climate-Change-%E2%80%93-a-new-Guide-from-ITC/.

33. Zamora, M. (2013). Farmworkers Left Behind: The Human Cost of Coffee Production. *Daily Coffee News*. Retrieved from http://dailycoffeenews.com/2013/07/17/farmworkers-left-behind-the-human-cost-of-coffee-production/.

34. 4C- Association will merge with Sustainable Coffee Programme into the Global Coffee Platform as of October 2016.

35. ITC Standards Map is a very useful tool for more information on the different standards and certifications: www.standardsmap.org/.

Starbucks (www.starbucks.com) and Nespresso (www.nespresso.com) have their own company standards.

Convenience

Single-serve coffee is pushing coffee consumption in traditional and emerging markets alike. Coffee pouches containing soluble coffee have been around for decades but the single-serve revolution gained momentum with capsules: Nespresso[36] mostly everywhere and Keurig[37] in the US after the pioneering efforts of Senseo[38] in the Benelux Union in 2001. A different type of single-serve –3 in 1: soluble coffee, non-dairy creamer and sugar– leads the process in emerging markets. Either type of single-serve (e.g. capsules in Brazil and 3 in 1 in Indonesia) or both are helping to expand consumption in coffee producing countries. In the pictures below are just two examples; there are many more systems on the market. One source[39] reports that single-serve pods/capsules constituted 15% of the volume of in-home consumption in 2014.





Senseo coffee machine and pads



Nespresso capsules

36. www.nespresso.com/.
37. www.keurig.com/.
38. www.senseo.com/.
39. www.peamarketing.com.br/imgs/coffidential87.pdf.





Nespresso coffee machine and capsules

Direct trade

Presented here as a separate trend but actually a direct consequence of the 'third wave' in coffee, direct trade is a term used by coffee roasters who buy straight from the growers, cutting out both the traditional middleman buyers and sellers and also the organizations that control certifications, such as Fairtrade, for example. Direct trade proponents say their model is the best because they build mutually beneficial and respectful relationships with individual producers or cooperatives in coffee producing countries. Some roasters do it because they are dissatisfied with the third-party certification programmes, while others want to have more information and control over aspects ranging from the quality of the coffee to social issues or environmental concerns. In addition to this, they also enjoy having contact with the coffee farmers.

Internet/subscription

The last coffee trend discussed here is consumers buying roasted coffee directly, online, from a coffee roaster. The coffee comes by mail directly to the home of the consumer. Usually, these are expensive speciality coffees and these types of consumers are well educated about coffee quality or can find a lot of coffee information on websites.[40] Sometimes consumers even roast at home and buy green coffee online.[41]

40. For example: www.intelligentsiacoffee.com, www.georghowellcoffee.com.
41. For example: www.sweetmarias.com.

Box 4: Implications for Nepal

The developments in the sector have a number of implications for Nepal as it seeks to secure its place within the high quality coffee and speciality coffee markets:

- Requires high and constant quality for speciality stores.
- There is a need to comply with certification requirements to preserve market access. Organic coffee offers good prospects.
- Reassuring consumers that the coffee products are produced in environmentally friendly conditions while developing social and economic aspects of producers. Sustainability.
- Attain considerable global market reach by reaching out to online speciality coffee stores.

VALUE CHAIN ANALYSIS AND SECTOR DIAGNOSTICS

HISTORICAL PERSPECTIVE

Coffee is an important beverage as coffee drinking has become a regular habit of people in many countries and it is also increasingly popular among Nepalis. Coffee farming is recent in Nepal. Coffee planting first began in 1938 thanks to a hermit, Mr. Hira Giri, who brought some seeds from Myanmar and planted them in Aanpachaur. However, further interventions were lacking until the 1970s. Farmers' interest in coffee grew and planting expanded gradually when coffee was given national priority as an export sector. Coffee was finally accepted as a commercial crop in the late 1970s and expansion of coffee growing took place when the Government of Nepal began distributing seeds to farmers in districts with the potential to grow coffee.



Around the mid-1980s, coffee production was commercially established. This initiative was boosted after the Nepal Coffee Company was established to support selling coffee in local markets. The Company started collecting dry cherry from producers and processed coffee for the domestic market. Coffee producers were fully motivated towards commercialization of coffee production mainly after 2002, when exports and domestic consumption of coffee substantially increased. As a result the sector was accepted as a major crop generating income for rural inhabitants in mid-hill areas.

Realizing the market prospects for coffee, favourable climatic conditions for its cultivation and the growing interest of farmers, a coffee development programme was launched to develop and promote the sector. The National Tea and Coffee Development Board (NTCDB) was set up in 1993 and took initiatives for the development of the coffee sector. Coffee cultivation expanded gradually to about 40 districts, including Lalitpur, Gulmi, Palpa, Syangja, Kaski, Sidhupalchowk and Kavre as major coffee production districts.

COFFEE PRODUCTION IN NEPAL

Nepal is a landlocked country bordering China in the north and India in the south, west and east. It has a diverse climate and topographical conditions, from the highest peak in the world –Mount Everest– down to 60 metres at Kechna in Jhapa district. Approximately 54% of Nepal is hill regions formed by the Mahabharat Range, soaring up to 4,848 metres, while 17% of the total land area is in the Terai region and the remaining 19% is the Himalayan region which is covered by snow throughout the year. Topographical and cool climatic conditions are highly suitable for the planting and production of mountain coffee in Nepal.

Nepal has also taken policy and operational measures to improve and commercialize its agriculture sector. Among different agricultural products, coffee is a new but emerging high value cash crop which has a positive environmental impact and has been valued by Nepali entrepreneurs over the last few decades.

Coffee farming has spread over 40 districts in the mid-hills. Nepali coffee is arabica coffee, with a combination of Bourbon, Typica and Yellow Caturra varietals grown mainly by small farmers at altitudes between 800 metres and 1,600 metres. Farmers follow organic and eco-friendly practices in coffee planting and production.[42] Coffee plants in Nepal start giving cherry from the age of three years and mature at five years. They yield up to the age of 40 and additional fruiting of 20 years is possible where farmers follow a colour pruning system.

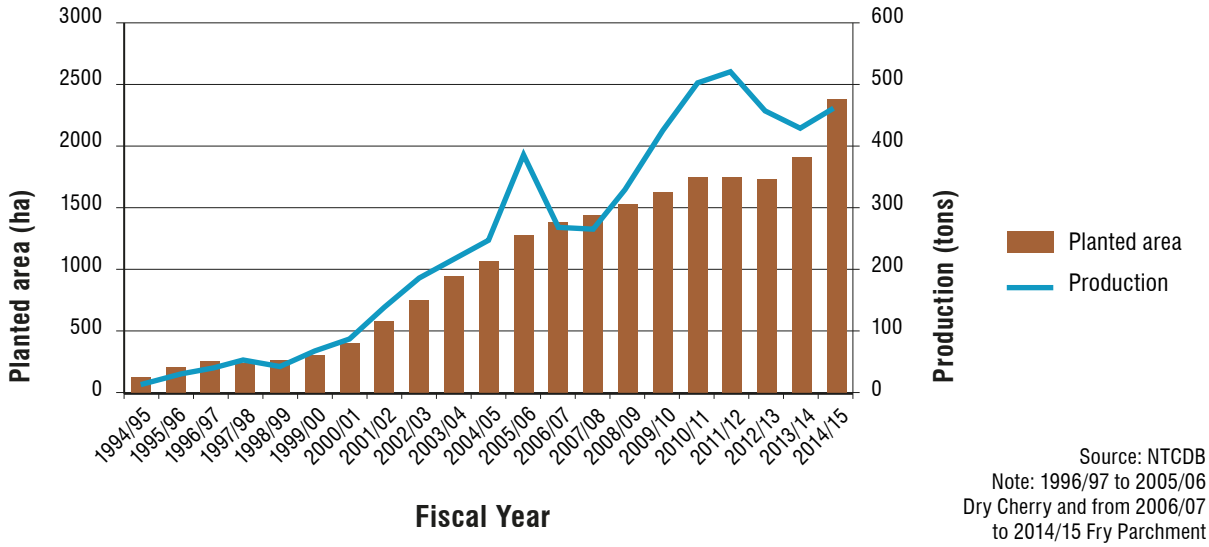
Nepali coffee is considered and accepted as 'speciality coffee' in the international market, mainly for the following reasons:

42. National Tea and Coffee Development Board.

- Being mild and from the mountains
- Highland production
- Grown outside the equatorial belt
- Organic
- Low caffeine
- Fair trade and high quality
- Environmentally friendly.

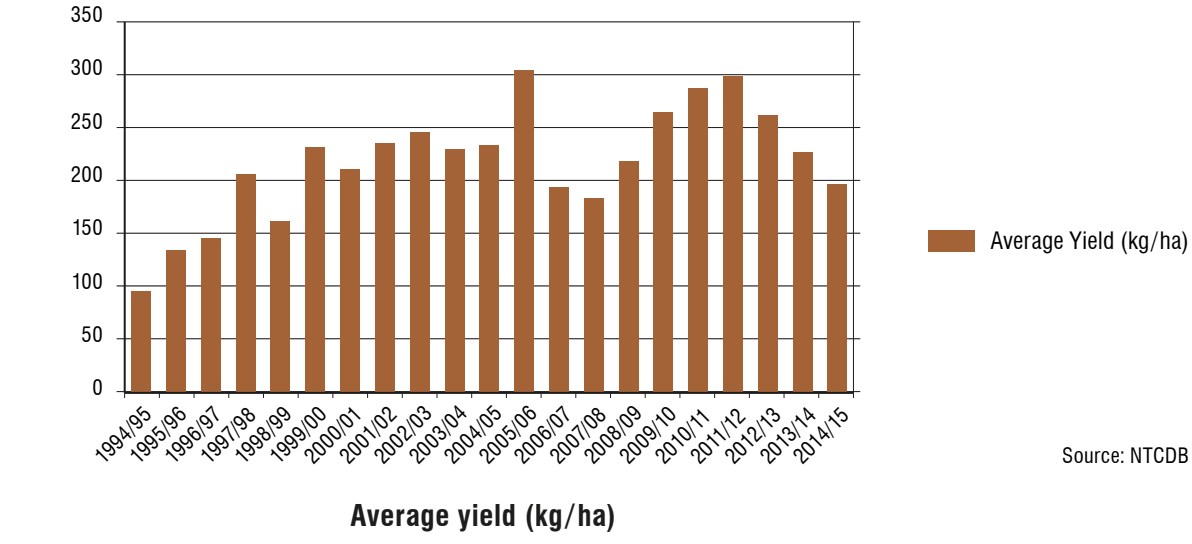
There has been remarkable progress in coffee planting and production in Nepal over the past two decades. The land area planted with coffee increased by a factor of 17.5, from 135.7 ha in 1994/95 to 2,381 ha in 2014/15; and production quantity grew by a factor of 35.8, from 12.95 tons of dry cherry to 463.58 tons of dry parchment from 1994/95 to 2014/15 (see figure 9).

Figure 9: *Coffee planting and production in Nepal, 1994/95–2014/15*



Source: NTCDB
Note: 1996/97 to 2005/06 Dry Cherry and from 2006/07 to 2014/15 Fry Parchment

Figure 10: *Average yield, 1994/95–2014/15 (kg/ha)*



Source: NTCDB

In view of the growing international market for organic coffee, attractive prices and improved agronomic practices followed by farmers, productivity has also increased significantly over the period reviewed. As a result, coffee plantation areas and the number of farmers are also increasing annually. For example, the number of farmers increased from 30,543 in 2013/14 to 32,186 in 2014/15. Currently, the approximate land holding of coffee is about 0.074 ha per family farm. Nepali farmers in mountain areas report that average annual yield per coffee plant is 3–5 kg, as against 17 kg per plant in Uganda.

Figure 11 clarifies that the major coffee plantation areas are in the Central and Western Development Regions which are under State Numbers 3, 4 and 5 under the newly promulgated Constitution of Nepal. Similarly, there is a possibility of coffee planting and production in other mid-hill and mountain areas which are currently considered new and minor coffee plantation areas. However, when assessing potential areas, Salyan, Surkhet, Doti, Palpa, Sindhuli, Dadeldhura, Pyuthan, Arghakhanchi and Dailekh are the main districts having high production potential for coffee.

Figure 11: *Coffee production areas in Nepal* 43

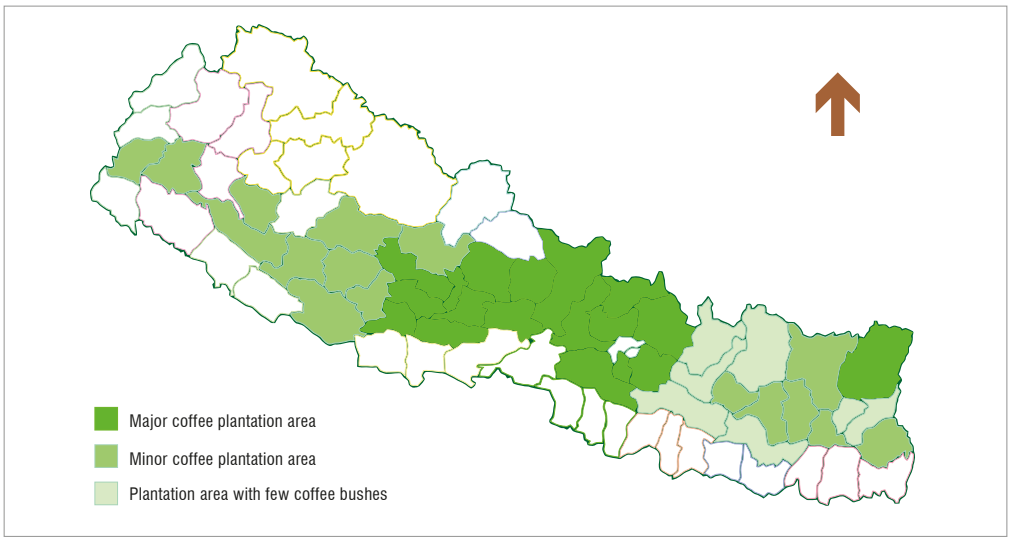


Table 5: *Coffee – districts and profiles*

No. of districts	41
No. of Village Development Committees	2 064
No. of municipalities	26
Plantation locations	448
Plantation area (ha)	2 381
Potential area (ha)	1 190 769
Production in tons	464
No. of farmers	32 186
Group	683
Primary Coffee Cooperatives (PCCs)	124
District Coffee Cooperative Unions	11
District Coffee Producers Associations	15
Pulping centres	84
Organic certification	6

43. National Tea and Coffee Development Board.

Structure of production

Hilly and mountain regions of Nepal are thought to have high potential for organic coffee production. According to the Coffee Database in Nepal, the total potential area for coffee planting is about 1.2 million ha.[44] Currently, out of 41 districts, Syangja, Kavre, Gulmi, Nuwakot, Kaski, Lalitpur, Lamjung, Arghakhanchi, Palpa and Sindhupalchowk are the top 10 coffee producing districts, covering 65% of total planted area and 67% of total production.

Despite an increase in planted area, total production and the number of farmers, productivity has slightly decreased from 225 kg/ha to 195 kg/ha from 2013/14 to 2014/15 (see figure 10). This demands further intervention in the production process (growing and processing practices) and production and use of improved technology to enhance productivity. The potential of the coffee subsector is highly recognized by the Government of Nepal, which has prioritized coffee as a potential export item.

Harvesting and processing

Coffee is harvested in Nepal between January and March. Harvested cherries are processed in six steps:

1. Washed: dipped in a bucket of water and beans that float are rejected
2. Pulped to get fresh parchments
3. Parchments are kept in plastic bags for 24 to 48 hours for fermentation until they give a good sound
4. Washe and mucilage removed
5. Beans are dried in the shade between 24°C and 48°C to reduce moisture to between 11% and 13%
6. Dried beans are hulled; cleaning and grading (sorting) of parchment for the market or processor.

The final process is roasting and packaging. A short description of coffee processing and its value additions is presented in table 6, which reflects that 100 kg of fresh cherry that could be sold at NPR 85 per kg would be converted to roasted beans that fetch a price of NPR 1,300 per kg. This indicates that despite reductions in production quantity through processing from 100 kg to 14.3 kg, the total value increases from NPR 8,500 to NPR 18,590. The improvement and management of value chain processes involves the use of appropriate plant and machineries such as drum pulping machines, hullers, roasting machines, grinding machines and sealing machines.

Pricing

A tentative overview of the price trend of raw coffee in Nepal is presented in figure 12. Between 2011 and 2016, prices of different categories and grades of coffee almost doubled. The price of Parchment Grade A increased the most, by 166% over the period. This trend indicates that the price of Parchment is higher when compared with other grades.

44. Coffee Database in Nepal, MoAD, NTCDB, Helvetas and CoPP, January 2014.

Figure 12: *Price trends of raw coffee (NPR per kg), 2010–2016*

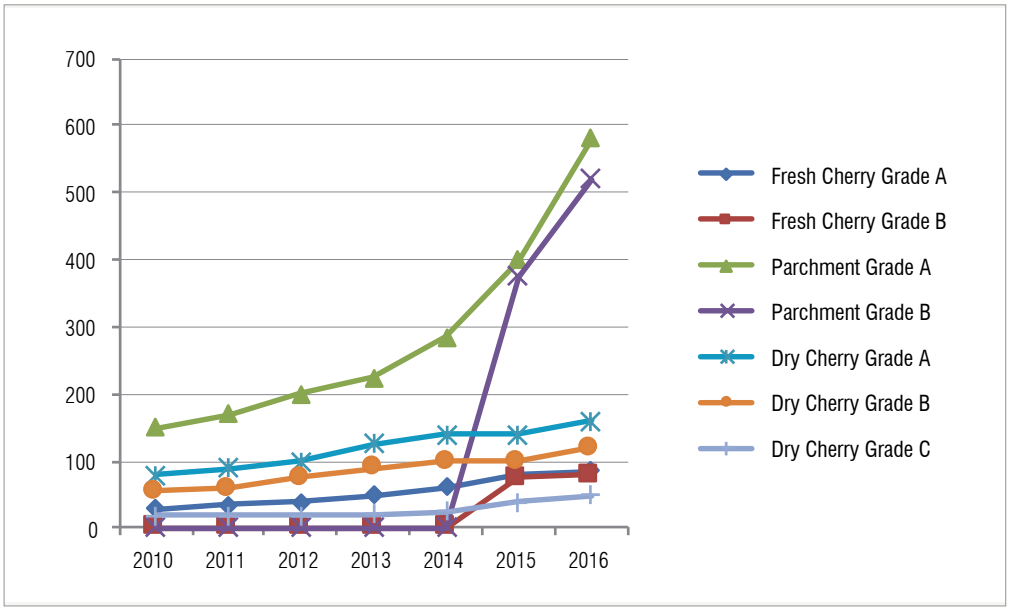


Table 6: *Quantity and price of coffee processes*

	Process (Grade A)	Quantity (kg)	Price/kg (NPR)
1	Fresh cherry collection, washing and cleaning (sorting out floating and foreign materials)	100.0	85
2	Pulping (parchment + mucilage) of those sinking into the water	54.0	N/A
3	Fermentation for 24 to 48 hours depending on temperature and washing (parchment)	43.0	N/A
4	Drying (parchment) in storage for 24 hours	23.0	580
5	Hauling in hauler machine	18.5	N/A
6	Sorting (16.5 kg for export + 1.5 kg for local)	18.0	N/A
7	Roasting (13.8 for export + 0.4 kg for local market)	14.3	1 300

Table 7: *Minimum supported price of coffee green beans in NPR per kg, 2014–2015*

Type	2014	2015
Fresh Cherry Grade A	62	80
Fresh Cherry Grade B		75
Parchment Grade A	285	400
Parchment Grade B		375
Dry Cherry		
Grade A	140	140
Grade B	100	100
Grade C	25	40

Source: NTCDB, Note: Price applicable from the month of December.

Support prices

The coffee sector has been supported by minimum prices so as to ensure a market for coffee farmers, in order to increase production. Comparative support prices for 2014 and 2015 are reflected in table 7. The minimum support prices, which are revisited annually to ensure a market for coffee farmers, are set as per the grades of fresh cherry, parchment and dry cherry. Prices for fresh cherry and parchment have increased substantially over the past two years (2015 and 2016).

Profitability

According to a study by the Project for Agricultural Commercialization and Trade, the annual cost of coffee production is NPR 43,833 per ha against a total return of NPR 78,023 per ha, which gives a net return of NPR 34,190 per ha. This return is 4.3 times higher than for maize and 3.3 times higher than for millet production in Nepal.

Nepali coffee standards

Nepal Standard 275:2049 Terminology of coffee.

Nepal Standard 526:2064 Grading for green coffee.

Nepal Standard 527:2064 Specification for grading for monsoonal coffee.

EXPORT PERFORMANCE

The overall export performance of coffee over the last two decades is presented in figure 13 and table 8. Coffee exports have increased significantly, from 14,660 kg in 1994/95 to 99,846 kg in 2014/15, representing an increment of 6.8 times during the review period. Total export value also increased from NPR 1.64 million in 1994/95 to NPR 99.3 million in 2014/15, which is an increase by a factor of 60.5 over the period. This reflects significant improvements in both quantity and value addition, resulting in a remarkable increase in unit export value from US$2.26 per kg in 1994/95 to US$10.00 per kg in 2014/15.

Figure 13: *Coffee exports from Nepal (HS 0901), 1994/95–2014/15*

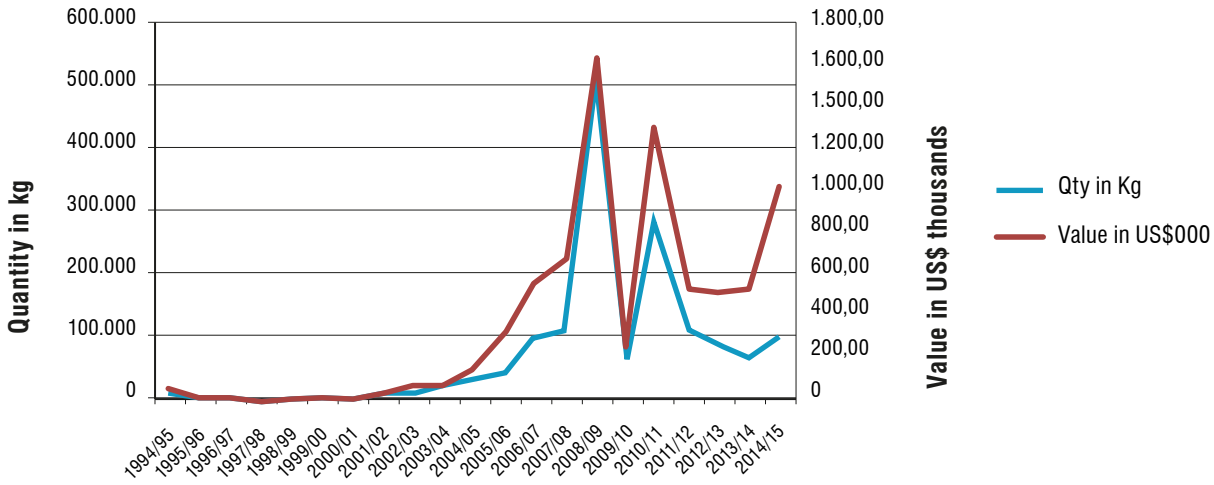


Table 8: *Exports of coffee from Nepal (HS 0901), 2010/11 and 2014/15*

	Country	2010/11		2014/15		Growth rate (CAGR) (%)	
		Qty (kg)	Value (NPR)	Qty (kg)	Value (NPR)	Qty	Value
1	Germany	35 045	12 521 517	28 355	29 624 726	-5.16	24.02
2	Japan	17 190	6 395 657	29 074	25 543 687	14.04	41.37
3	Switzerland	-	-	15 046	18 546 188	-	-
4	Republic of Korea	67 157	23 388 405	15 089	14 438 428	-31.15	-11.36
5	Canada	500	450 938	1 737	2 465 087	36.52	52.91
6	Italy	2 500	1 968 560	2 000	2 432 640	-5.43	5.43
7	Netherlands	500	358 300	1 632	2 207 830	34.41	57.55
8	China	7 550	852 550	4 191	844 611	-13.68	-0.23
9	United Kingdom	16 664	4 753 629	800	936 234	-53.19	-33.38
10	Australia	14 020	2 148 929	500	646 415	-56.54	-25.94
	Subtotal	161 126	52 838 485	98 424	97 685 846	-11.59	16.61
	Others	118 635	40 251 016	1 422	1 618 133	-66.91	-55.22
	Total	279 761	93 089 501	99 846	99 303 979	-22.71	1.63

Source: Modified based on data from Trade and Export Promotion Centre.

Coffee export destinations

The major export destinations of Nepali coffee and comparison of the data of 2010/11 and 2014/15 are presented in table 8. For the period 2014/15, the top three countries that Nepal exports to – Germany, Japan and Switzerland – represent around 74% of the total exports of Nepali coffee.

Looking at the total exports of coffee from Nepal for the period of 2010/11 to 2014/15, in spite of a substantial decrease of 22.71% in export quantity there was still a 1.63% increase in export value. For exports to the Netherlands, Canada and Japan, there was a sizeable increase in both the export quantity and value.



Photo: ITC, *Farmhouse in the hills of Pokhara*

TRADE POLICY AND MARKET ACCESS CONDITIONS

TRADE AGREEMENTS AND TRANSIT TREATIES

As a landlocked country Nepal faces issues of transit routes and ports to access the international market. Bilateral trade agreements and transit treaties are key elements of trade policy with its neighbouring countries. Effective economic integration through improved connectivity and the elimination of border barriers to trade and services should provide Nepal with broader access to regional and global markets. During the last three decades, Nepal has made conscious efforts to foster deeper economic integration with neighbouring countries and regional partners in South and East Asia as well as within the global economy. Nepal has signed 17 trade and two transit agreements which have provided the country with improved access to regional and global markets. The transit agreements with India and Bangladesh are fully operational. Recently Nepal has also signed a transit and transport agreement with China (March 2016) and its protocol and operational modalities are currently under study and preparation.

Nepal acceded to the World Trade Organization in 2004, is a founding member of the South Asian Association for Regional Cooperation and has been actively participating in the South Asian Free Trade Area and the South Asian Association for Regional Cooperation Agreement on Trade in Services. Nepal is also a signatory to other important regional cooperation initiatives such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation. Similarly, the country participates in the Asia–Pacific Trade Agreement as an observer.

Nepal has bilateral trade agreements with India and China, which are also its major trade partners. The Trade Treaty signed with India is reviewed periodically and renewed every seven years. In October 2016 this treaty was renewed for a further seven years. China also provides zero-tariff access to its market for Nepal's 7,831 export items under a letter of exchange. Nepal's exports are also getting preferential access to developed countries' markets under the Generalized System of Preferences. Furthermore, the EU has offered duty free, quota-free access to all export items under its Everything but Arms initiative. Nepal signed a Trade and Investment Framework Agreement with the United States in 2011.

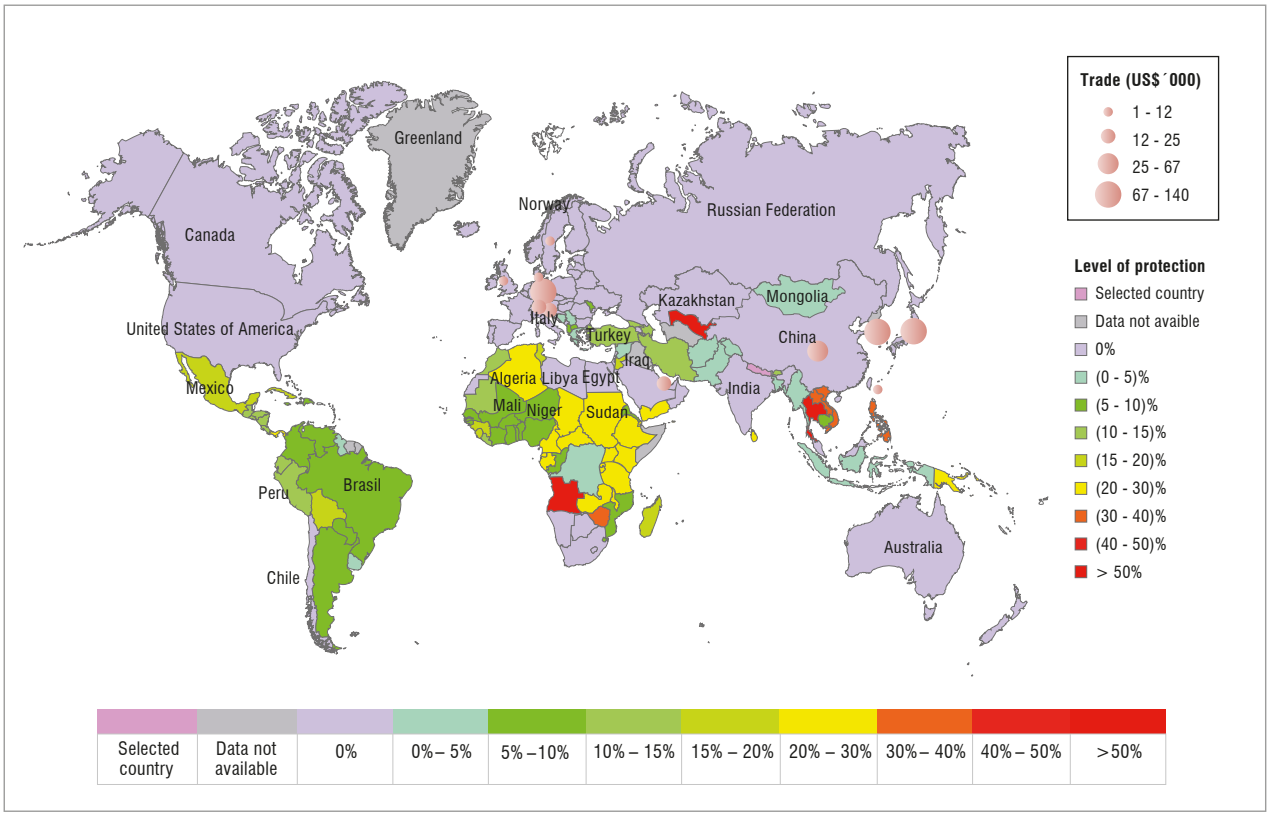
Despite numerous trade agreements and preferential market access, utilization of the benefits has been limited due to variation in the nature of schemes and lack of awareness among Nepali exporters about the requirements to comply with strict rules of origin and other regulatory and administrative procedures.[45]

TARIFF ANALYSIS AND TARIFF ADVANTAGE

As illustrated in figure 14, tariffs imposed on Nepali exports of coffee vary widely. Among its main important trading partners, Nepal faces 0% tariff under the bilateral trade agreement with India; under Most Favoured Nation regimes in the EU and United States markets; and under the preferential tariff for least developed countries in Japan and the Republic of Korea. It is important to note that the preferential tariff for least developed countries does not provide a clear tariff advantage in major importing markets.

45. NDTIS 2016.

Figure 14: *Level of Customs duties faced by Nepali exports of coffee, not roasted, not decaffeinated (HS 090111)*



Source: International Trade Centre (2016) (a).

NON-TARIFF BARRIERS FACED BY COFFEE EXPORTS FROM NEPAL

Although tariffs do not constitute a significant restraining factor for exports of coffee to access international markets, the imposition of various non-tariff as well as para-tariff measures poses challenges for easy access to destination markets. As an agricultural commodity, Nepali coffee must also comply with legal requirements (sanitary and phytosanitary (SPS) requirements and technical barriers to trade), and sometimes with non-legal requirements such as private standards.

Legal requirements

Legal requirements[46] are the basis for market entry and products marketed in any target market must meet these requirements. They are established by law and must be adhered to by all producers who want to export. Any product that fails to meet these requirements is not allowed in the target market.

Maximum Residue Limits (MRLs): Monitoring and control of residue levels of agrochemicals in coffee production is essential for entering most emerging and developed coffee markets. Many, if not all, potential buyers will require proof of compliance with the legislation in their country. Therefore, a lab analysis is very often asked for or the buyers will do it themselves at a lab in their country. Coffee is a much less risky product than tea because the coffee bean is protected by the cherry.

A specific Intergovernmental Group on issues like MRLs[47] has been established by the Food and Agricultural Organization of the United Nations (FAO). The EU legislation on MRLs, with a list of specific residues, can be found at the EU Export Helpdesk.[48]

46. For the European Union, you can find an overview at: http://exporthelp.europa.eu/thdapp/form/output?action=tariff&prodLine=80&mode=specificRequirements&status=null&simDate=20160725&languageId=en&cmd=chap&taricCode=0901110000&partnerId=NP&reporterId=DE&simulationDate=25%2F07%2F2016&submit=Search.

47. Food and Agriculture Organization (FAO) of the United Nations (UN). FAO Intergovernmental Group on Tea. Retrieved from www.fao.org/economic/est/est-commodities/tea/tea-meetings/en/.

48. European Commission (Revision date: 2015). Trade Export Helpdesk. Retrieved from http://www.exporthelp.europa.eu/thdapp/taxes/show2Files.htm?dir=/requirements&reporterId1=EU&file1=ehir_eu15_04v001/eu/main/req_heapestires_eu_010_1003.htm&reporterLabel1=EU&reporterId2=NL&file2=ehir_nl15_04v001/nl/main/req_heapestires_nl_010_1003.htm&repo

Box 5: MRLs

Contaminants, specifically Ochratoxin A

The presence of pesticides is one of the most common reasons that border authorities reject coffee from producing countries. EU legislation establishes the MRLs for pesticides permitted in products of animal and vegetable origin that are intended for human consumption. These MRLs are relevant to many natural ingredients, including coffee. Products containing more pesticides than allowed will be withdrawn from the EU market.

Mycotoxins

Moulds and fungi are another important reason for border rejections of coffee. Ochratoxin A levels constitute a specific point of attention. Nevertheless, there are no specific limits for green coffee beans, given that the product is roasted or goes through other types of processing before reaching consumers. For roasted coffee beans and ground roasted coffee, the maximum level of Ochratoxin A has been set at 5μg/kg, while the maximum for soluble (instant) coffee has been set at 10μg/kg.

Extraction solvents

Solvents can be used for decaffeination of green coffee. MRLs apply for extraction solvents, including methyl acetate (20 mg/kg in the coffee), dichloromethane (2 mg/kg in the roasted coffee) and ethylmethylketone (20 mg/kg in the coffee).

Source: www.foodsafety.govt.nz/industry/sectors/plant-products/pesticide-mrl/worldwide.htm.

Non-mandatory regulations and private standards

Some companies go further in their requirements than legislation. The main categories of additional requirements are environmental requirements and social (labour) requirements.

- Private-standard compliance and voluntary sustainability standard

Many buyers look specifically for certified coffees, organic or fair trade coffee. In Europe, North America (and South America to a lesser extent), Japan and East Asia, demand for certified coffees has been growing steadily for a number of years. More than 40% of coffee produced in the world has some form of certification or verification and more than 15% of coffee produced in the world is purchased as certified/verified.

Social requirements are often based on International Labour Organization basic standards, laying down principles on what are perceived as the most important labour issues. These concerns include basic safety conditions for workers, such as occupational health and safety, and no use of child labour or forced labour. The basic International Labour Organization standards are widely used by international companies and as a basis for the development of international management systems such as Social Accountability SA8000, as well as industry initiatives like the International Cocoa Initiative. Many companies seek close cooperation with producers when dealing with social issues in the supply chain. In some cases, companies choose to become certified by an independent certifier or take part in industry initiatives, or work together on certain issues with special interest groups such as non-governmental organizations (NGOs). Although supplier requirements are not always a must in the selection, performance and awareness may play a role when making a decision between equally strong suppliers competing in the EU market.

- Food safety –hygiene– Hazard Analysis and Critical Control Points

Food safety and food control are key issues in most markets. For instance, according to the EU General Food Law (the legislative framework regulation for food safety in the EU), to guarantee food safety and to allow appropriate action in cases of unsafe coffee, it must be traceable throughout the supply chain and risks of contamination must be limited. An important aspect to control food safety hazards is defining critical control points (Hazard Analysis and Critical Control Points). In the

event of repeated non-compliance, coffee from non-complying countries will be registered on a list included in the annex of Regulation (EC) No 669/2009. In the United States, all commercial imports of food products require the filing of Prior Notice[49] with the Food and Drug Administration (FDA), and foreign manufacturers and/or distributors of food products must register with the FDA before their goods may be admitted. Third-party certification is required by the FDA. According to the Food Safety Modernization Act,[50] all food imported (including coffee) must offer third-party testing to ensure the foreign food facilities comply with United States food safety standards.[51]

- Traceability

Traceability is an important concept in current international trade of foodstuffs. There is both a legal and non-legal aspect to traceability: food ingredients like coffee should be traceable for food safety purposes.

> Traceability is the ability to track any food, feed, food-producing animal or substance that will be used for consumption through all stages of production, processing and distribution. In the event of a food incident it enables the identification and subsequent withdrawal or recall of unsafe food from the market. If the food has not reached the consumer, a trade withdrawal is undertaken. If the food has reached the consumer, a product recall is undertaken which includes notification of the consumer through in-store notices and press releases.[52]

Another reason is that clients want to know – from a more social point of view – who produced the coffee they purchased. They want to know the environmental and socioeconomic conditions of the production, processing and further trade. In other words: what payment do the farmers get, how healthy is the soil where coffee is grown, are chemicals used in processing, etc. Traceability is essential for larger, sometimes multinational supermarkets; other buyers are sometimes more interested in quality and MRLs.

NATIONAL PLAN AND AGRICULTURAL POLICY

The national economic plan – like the 13th Plan, which ended by July 2016, and the 14th Plan, which is under formulation – is expected to support growth of major exportable cash crops like tea, large cardamom and coffee. The 20-year Agriculture Perspective Plan (1995) ended in 2015. However, its continuity is envisaged through the Agriculture Development Strategy (ADS) 2015 and tea is one of the cash crops receiving priority in such plans, strategies and programmes of the Ministry of Agricultural Development (MoAD). Important programmes under the 14th Plan include:

1. Trade promotion programmes: Collection and dissemination of information, market promotion, capacity development, research and development on export products, and policy advice and advocacy.

2. Trade, information and private sector support programmes: Production development drive for export growth through product quality improvements, design developments and use of new technologies in association with the private sector.

3. Nepal Trade Integration Strategy (NTIS) programmes: Interministerial coordination for the implementation of programmes under NTIS, including establishment and promotion of collective branding, trademarks, traditional knowledge and geographical indications for Nepali products and services.

4. Trade infrastructure, logistics and procedural development: Programmes for the construction and development of inland container depots, container freight stations or dry ports, roads, trade portals, single window systems and roads for the speedy clearance and movement of cargoes, thereby reducing transaction costs and time.

The vision of ADS is 'a self-reliant, sustainable, competitive and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security leading to food sovereignty'. Average agricultural gross domestic product growth is targeted at 6% from the position of 3% in 2010. ADS will accelerate agricultural sector growth through four strategic components related to governance, productivity, profitable commercialization and competitiveness. It has also recognized that farmers have a right to participate in the planning, decision-making, implementation and monitoring of ADS. In the meantime, ADS activities are expected to impact three groups of farmers (commercial, subsistence and landless). Commercial farmers are directly affected by most of the ADS measures: in some cases the impact is direct and very strong, for example in the case of irrigation, mechanization, value chain development and exports.

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49. U.S. Food & Drug Administration (FDA). Filing Prior Notice. Retrieved from http://www.fda.gov/Food/GuidanceRegulation/ImportsExports/Importing/ucm2006837.htm.

50. U.S. Food & Drug Administration (FDA). Imports Under FSMA. Retrieved from http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm257980.htm.

51. U.S. Food & Drug Administration (FDA). Chemical Contaminants, Metals, Natural Toxins, Pesticides Guidance Documents & Regulations. Retrieved from. http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ChemicalContaminantsMetalsNaturalToxinsPesticides/default.htm

52. European Food Information Council (2014). Food Traceability: Cornerstone of EU food safety policy. Retrieved from www.eufic.org/article/en/artid/Food_traceability_cornerstone_of_EU_food_safety_policy/.

TRADE POLICY AND AGRICULTURAL POLICY

Agriculture has been a priority area in the development process since Nepal adopted a planned development model in 1956. The National Agriculture Policy and ADS are the main policy frameworks to provide guidance and intervention in the development of the agriculture sector. The policy is mainly focused on increasing production and productivity, commercializing the agriculture sector and making it competitive in the world market.

ADS was introduced in 2015 with a view to arranging required interventions for the commercialization of agriculture and enhancing production and productivity in the sector. The strategy is focused not only on the production sectors (crops, livestock, fisheries and forestry) but also on processing, trade and other services including storage, transportation and logistics, finance, marketing, research and extension.

Indicators and targets have been developed based on the ADS vision detailed above. ADS envisages integrating the agriculture sector with industrial and value chain development. Coffee has been ranked fourteenth in the value chain development in Nepal[53] (MoAD, 2015). Similarly, an action plan for ADS was prepared and made effective from 2015/16.

Additionally, periodic development plans of the country have also given priority to the agriculture sector and the current development plan, as well as an approach paper of the upcoming 14th Development Plan (2016/17 to 2018/19), have incorporated commercialization of the agriculture sector to increase production and productivity into their priorities, strategies and detailed working policies.

Coffee Policy 2003

The Coffee Policy 2003 is under implementation and aims to promote exports of coffee and substitute imports; to help poverty alleviation by generating income and employment opportunities; to help conserve the environment by expanding coffee planting throughout the country; and to make coffee enterprises more sustainable and attractive. In addition, 'The Coffee Logo Directives' were introduced to use the collective logo of Nepal Coffee properly and promote it in potential destination markets. Additionally, a 2% cash incentive for exports of processed coffee is being implemented and the incentive scheme is being revised.

NTIS 2016: The Government of Nepal introduced the NTIS in 2010 and updated it in 2016. NTIS has identified the priority sectors with export potential for investment in value chain and product development activities. Furthermore, NTIS has also identified areas of intervention for implementation of different programmes in a public–private partnership modality, especially in trade-related infrastructure development.

53. Ministry of Agricultural Development, Agricultural Development Strategy 2015.

LEGAL FRAMEWORK FOSTERING ENVIRONMENTAL SUSTAINABILITY IN THE AGRICULTURE SECTOR IN NEPAL

Environmental sustainability is important to Nepal. This is evidenced through it being a signatory to more than 20 international environmental conventions and agreements, including the United Nations Convention on Biological Diversity, 1992; the United Nations Convention on Combating Desertification, 1994; the United Nations Framework Convention on Climate Change, 1992; and the Kyoto Protocol, 1997.

With its strong institutional and legal framework for environmental protection, Nepal established the Ministry of Science, Technology and Environment and a high-level Environment Protection Council, and also enacted the Environment Protection Act, 1996 and the Environment Protection Regulations, 1997. Nepal prepared and implemented guidelines on environmental impact assessments and strategic environmental impacts to assess the impact of all development projects.

Some programmes and policies that support the integration of environmental sustainability into the development of the agricultural sector in Nepal are the Nepal Biodiversity Strategy (2002), Nepal Biodiversity Strategy Implementation Plan (2006–2010), National Biosafety Framework (2007), Forestry Sector Policy (2000), Herbs and Non-Timber Forest Products Policy (2006), National Wetlands Policy (2003) and so on.

INVESTMENT POLICY

Investment climate and investment-friendly policies in Nepal

For the past two years, the agricultural sector and other export sectors have been negatively affected and stunted due to two major shocks that happened in Nepal: the April 2015 earthquakes that caused huge loss of life and assets, and the political tension that disrupted external trade.[54] Compared with countries such as Bhutan or Bangladesh, Nepal performs at a lower level in terms of electricity and transportation. However, it performs better

54. The World Bank (2016). Nepal Development Update, May 2016: Remittances at Risk. World Bank, Kathmandu. Retrieved from https://openknowledge.worldbank.org/handle/10986/24663 License: CC BY 3.0 IGO.

regarding tax rates and tax administration, labour skills, the functioning of courts and business licensing permits.[55] Due to poor infrastructure, crime and vandalism, Nepali firms bear higher aggregate costs associated with the poor investment climate than any comparator countries.

The country is now in the process of full fledge implementation of the new Constitution, where local election has already been completed and the election for federal parliament and provincial parliament is approaching very close. This will definitely drive the country towards socio-economic development by keeping these agenda on the top in the days ahead.

Nepal has a lot of export potential in the agricultural sector. According to a World Bank study,[56] one of the main reasons it is being held back is because of low levels of foreign direct investment. The bulk of exports of its products such as teas, herbal remedies and spices –which are said to fit the 'brand' of Nepal– are of low quality. Additionally, its exports are repeatedly rejected due to being part of the lowest quintile of countries for food safety.

In October 2016, the Nepal Industrial Enterprise Act 2016 was approved by Parliament. Parliament has also approved amendments to the Labour Act to improve the investment-friendly environment in Nepal, with more flexible labour regulations 'on no work no pay'. Additionally, the Foreign Investment and Technology Transfer Act was introduced as the most liberal regulatory measure for the promotion and attraction of foreign direct investment in Nepal in 1992. An amendment is currently being prepared to enhance the investor-friendliness of the environment.

Government incentives in the coffee sector: coffee plantations receive an incentive of a 10-year income tax holiday. Exports of coffee to third countries attract a cash incentive of 2% against the hard currency earned to compensate the high cost of doing business with countries other than India.

55. Afram, Gabi G.; Pero, Angelica Salvi Del (2012). *Nepal's investment climate: leveraging the private sector for job creation and growth*. Directions in development; private sector development. Washington, DC: World Bank. http://documents.worldbank.org/curated/en/343221468157793055/Nepals-investment-climate-leveraging-the-private-sector-for-job-creation-and-growth.

56. The World Bank (2016). Could Trade and FDI be the Key to Unlocking Nepal's Potential? New Report Suggests 'Yes'. *The World Bank*, Retrieved from http://www.worldbank.org/en/news/feature/2016/07/12/could-trade-and-fdi-be-the-key-to-unlocking-nepals-potential.

Table 9: *Investment climate in Nepal and neighbouring countries*

International benchmark	Viet Nam	China	Pakistan	Nepal	Sri Lanka	India	Bangladesh	Myanmar
Ease of Doing Business ranking (World Bank Group, 2016)	90	84	138	99	107	130	174	167
Competitive Industrial Performance ranking (United Nations Industrial Development Organization, 2012)	55	5	73	128	79	44	77	Not ranked
Global Competitiveness Index (World Economic Forum, 2015-2016)	56	28	126	100	68	55	107	131
Inward Foreign Direct Investment Performance Index (United Nations Conference on Trade and Development, 2010)	22	86	110	134	113	97	114	52
Corruption Perception Index (Transparency International, 2015)	112	83	117	130	83	76	139	147
Economic Freedom Index (Heritage Foundation, 2016)	131	144	126	151	93	123	137	Not on the list

Box 6: Positive impact of supporting policies for the development of the coffee sector in Nepal

The Government has recently gained a positive understanding of coffee's export potential and established coffee as one of its top priority sectors for exports in the NTIS 2016. The Coffee Policy 2003 has been essential in promoting Nepali coffee but needs to be updated. A new policy framework needs to be established to increase production, improve quality and provide financial incentives, as well as clarifying the role of NTCDB.



Photo: Machhapuchhre Organic Coffee.

DEVELOPMENT ACTIVITIES SUPPORTING THE SECTOR

Various development agencies are intervening to develop the coffee sector, which indicates growing donor interest in coffee as one of the commodities to improve rural livelihoods. Among the major programmes are the Nepal Trade and Private Sector Development (TPSD) programme and the Coffee Promotion Programme (CoPP) of Helvetas, as well as the continued support of the Japan International Cooperation Agency through the 'One Village One Product' scheme in coffee in some selected districts and recent support from the Korean International Cooperation Agency.

The TPSD programme is working on the development of coffee. This EU-funded programme covers key themes such as trade policy and capacity-building, quality infrastructure and value chain development. A specific emphasis is on bringing productivity and exports of coffee from the Himalayas to a new level. There is a programme to establish a pilot collaboration with the EU and the Nepali Coffee Producers Association (NCPA) and cooperatives through NTCDB and to enhance quality infrastructure with top-notch equipment. This project will work on coffee value chain development mainly in eight districts – Gulmi, Palpa, Syangja and Kaski in the western region and Nuwakot, Sindhu, Kavre and Lalitpur in the central region of Nepal – with various activities to promote the value chain.[57] Expected impacts are increased capacity of coffee subsector institutions and increased production, employment, productivity and exports of coffee through improved farming techniques, enhanced skills, and improved processing and marketing techniques.

CoPP has the longest history in coffee promotion in Nepal. It started in 2002 and has been working on coffee promotion by implementing various innovative programmes to strengthen the capacity of producers, associations and cooperatives to produce and manage high quality organic coffee for domestic and international markets. Some of the other projects that are directly related to trade and export product sectors and their brief descriptions are presented in table 10.

57. Ministry of Commerce and European Commission, Nepal TPSD programme.

Table 10: *Ongoing trade and value chain development assistance on coffee*

Donors and partners	Programme	Description	Remarks
EU and the Ministry of Commerce (MoC) with NTCDB	Nepal TPSD Programme Lead Agency: MoC Period: 2015–Jan 2018 Budget: US$6 million Implementation: By a consortium led by GFA Consulting Group GmBh including Helvetas Swiss Inter-cooperation, Nepal and the Austrian Standards Institute	The project's objective is to contribute to the Government of Nepal's efforts to reduce poverty and stimulate trade-led economic growth. TPSD works closely with organizations representing producers, exporters and importers. It covers key themes such as trade policy and capacity-building, quality infrastructure and value chain development. A specific emphasis is on bringing productivity and exports of coffee from the Himalayas to a new level.	This project works on coffee value chain development mainly in eight districts – Gulmi, Palpa, Syangja and Kaski in the western region and Nuwakot, Sindhu, Kavre and Lalitpur in the central region of Nepal – with various activities to promote the value chain.*
World Trade Organization/ Enhanced Integrated Framework (EIF) and MoC	Nepal Enhanced Capacities for Trade and Development** Project Period: 15 March 2010 to 28 February 2017 Budget: Tier 1: US$1,685,000 Tier 2: US$7,820,000	This programme supervises and monitors the implementation of projects in collaboration with other development partners. This project contributed indirectly to increasing export trade, income and employment generation and also encouraging women entrepreneurs; strengthening institutions; and supporting formulation of trade policies and strategies that are directly concerned with export priority items such as coffee, tea, large cardamom and handmade paper and paper products.	The EIF Tier 2 Process is supported by the EIF Trust Fund for priority small-scale projects to build trade-related and supply-side capacities.
World Bank and MoAD	Project for Agricultural Commercialization and Trade Period: 2009 – June 2018 Budget: US$ 26.55 million	This project's objective is to improve the competitiveness of smallholder farmers and the agribusiness sector in selected commodity value chains. This is done through helping farmers in market-oriented production and improved access through technology and information services and infrastructure.	One component aims at strengthening the efficiency and effectiveness of SPS services in order to reduce existing obstacles to agricultural and food trade. Products using SPS services include tea, large cardamom and coffee.
Helvetas Swiss Inter-cooperation Nepal	Coffee Promotion Programme Lead Agency: Helvetas Nepal Period: 2002 to continuing	This programme was launched in 2002 and is currently in its third phase covering 12 districts in western Nepal.*** It directly intervenes in the Nepali coffee sector for its development. Various programmes have resulted in the expansion of coffee farming in Nepal to many districts and currently more than 27,000 households are engaged in coffee in more than 42 districts.	The major impact is the utilization of land and increasing incomes and the standard of living of farmers at the grass roots level.

* Ministry of Commerce and European Commission, Nepal Trade and Private Sector Development (TPSD) programme.

** www.http://eifnepal.gov.np.

*** MoAD, NTCDB and CoPP Nepal, Coffee Database in Nepal 2014.

VALUE CHAIN MAPPING: CURRENT SITUATION

The roles and functions of the main actors along the value chain functions are described below, from input suppliers to collection centres to hulling, grading and then roasting and packing and finally distribution to domestic and export markets. Figure 14 displays the interrelationship between actors at different levels of the value chain.

Inputs

Most of the inputs for the production of coffee are available in Nepal. Major foreign inputs are imported into Nepal by specialized importers such as the Agriculture Input Company, Agro-Vet Service and material providers. Large suppliers at the central and district level supply to farmers through their district or local distributors, agents or retailers, or agro-vet supply shops.

- Seedling requirements

Coffee farmers are taking their own initiatives through groups or cooperative unions to develop coffee plantlet nurseries at the district level and distribute seedlings among the member farmers as per their predetermined demand. There are no systems of organized or Government nurseries for the supply of seedlings. Coffee plantations require 2,000–2,400 seedlings per ha and estimated total annual demand in 40 districts of the country is about 1 million seedlings, based on the average requirements of 25,000 seedlings per district. Currently total demand is fulfilled by local farmers who develop nurseries based on arrangements with farmers' groups or DCCUs.

These nurseries receive support equivalent to 50% of the cost from the Government or NTCDB. According to farmers, the cash support is sufficient for farmers to meet the cost of transportation of seedlings only. At present these nurseries at district level are selling the seedlings at NPR 15 to NPR 20 each.

- Other inputs

Table 11 clearly presents the input requirements and suppliers network.

- Grading and sorting

Grading of coffee in Nepal is done in two stages. At first grading of raw coffee is done for pricing purposes. Raw coffee is graded in three groups and seven grades based on size, look, moisture and other qualities: for example, Group I includes Fresh Cherry Grades A and B; Group II includes Dry Cherry Grades A, B and C; and Group III is Dry Parchment Grades A and B. The second grading system is at the green beans stage when sizes are sorted to bring to an average uniform size between 5 and 7.5 mm that is graded as A for export purposes. Extraordinary sizes (above 7.5 mm and below 5 mm) are graded as B for the domestic market. Farmers and traders also have a different grading system. Under this system, in the case of grade A, 100 kg of fresh cherries gives 14.3 kg of roasted beans but when output is 10.5 kg of roasted beans it is considered Grade B.

Individual farmers try to add value as much as possible up the stage of parchment and also take responsibility to process parchment to green beans with the help of hullers managed by cooperative unions and farmers' group.

Table 11: *Inputs required and supply sources*

Inputs required	Suppliers	Source or origin
Hilly and shaded land and labour	Locally available	Nepal
Seedlings	Locally available or from DCCUs or NTCDB or private farmer nurseries	Nepal and India (Sikkim)
Water (mostly rain-fed) and electricity	Drinking Water Corporation and Nepal Electricity Authority	Nepal
Fuel: petrol, diesel, gas	Nepal Oil Corporation	India
Tools like scissors and sprayers and machinery for pulping and hulling	Regional or district distributors	India, Germany, Turkey or Nepal
Organic compost	Agriculture Input Co. or district distributors	India
Packaging materials		
Jute bags – plastic coated	Jute products and plastic bag manufacturing companies in Biratnagar	Nepal
Aluminium foil bags	Manufacturing companies	India and Nepal

Packing and packaging

Most farmers pack fresh cherries in buckets or bamboo baskets and transport the products from farm to pulping centre within 24 hours of harvesting. After further processing, dried parchments are packed in jute or plastic sacks for the time being and after hulling green beans are packed for export in agro-plastic-coated jute bags / sacks that are available in sizes of 30, 35, 40 and 50 kg. Roasted coffee beans and coffee powder are produced by a number of companies with their own brands for the domestic market and such beans and powder are usually packed in different weights ranging from 100 grams to 1 kg.

Processing capacities

Processing of coffee involves cherry washing, pulping, keeping for fermentation, removing mucilage, drying of parchment, hulling, cleaning, grading of green beans and packing. Most farmers' groups have pulping and hulling machines. However, farmers are not satisfied with these machines as they have found that there is more than 10% wastage of product during processing operations. According to a farmer, a Chinese pulping machine is still costly and produces much wastage, while hulling machines imported from India also result in a 10% loss due to many bean breakages. Farmers also suggest that research and funding are needed on the possibility of introducing techniques or machinery for a heat-controlled drying system.

Storage capacities

Storage capacities are unknown from the secondary study. However, it was understood that dried parchments are frequently packed in jute sacks and stored in open ventilated dry rooms. Packing and packaging of green beans are done just before transportation from farmers to traders and wholesale traders or to foreign market.

Major actors and functions

Farmers

Individual farmers are the main actors directly engaged in coffee production, representing almost 90% of total production. It is estimated that there are more than 32,000 farmers engaged in coffee planting and production. These farmers carry out the following functions:

- Preparation of new plantations:
  - Prepare land for planting
  - Prepare compost manure
  - Purchase or grow seedlings, shade plants and packing materials
  - Prepare or purchase tools and equipment
  - Transplant seedlings and shade management.

- Regular operations of plantation management:
  - Watering, composting and cleaning of planted areas
  - Harvesting
  - Postharvest practices: cherry washing, pulping, keeping for fermentation at correct temperature, removing mucilage, drying of parchment, hulling, cleaning, grading of green beans and packing
  - Transportation of products to traders or exporters.



Photo: United Nations Photo, *Coffee Handler with Beans.*



Source: ITC photos during field visit in Pokhara

Coffee producers groups and primary coffee cooperatives

At a community level, farmers organize either a producers group or PCC. A minimum of 25 farmers can form a PCC. The major roles of coffee producers groups and PCCs are to organize and support farmers in the planting, processing and production of coffee beans. The majority of PCCs manage pulping centres. The coffee producers groups and PCCs also coordinate with the DCCU to facilitate marketing and payments for farmers' products.

DCCUs

DCCUs provide technical support to the coffee producers groups and PCCs. Some of the support and activities provided by the Unions include:

- Growing saplings, nursery management and distribution of saplings;
- Collection of fresh cherries from farmers and processing up to dry parchment;
- Selling dry parchment to traders on behalf of farmers;
- Coordinating with the District Agricultural Development Office (DADO) to mobilize funds for grants required for the production of saplings;
- Coordinating with the District Coffee Producers Association and NCPA;
- Coordinating with coffee traders and exporters to sell farmers' stocks of dry parchment and green beans in domestic and international markets;
- Coordinating and policy lobbying with Government authorities for the implementation of policy and regulatory aspects related to coffee production and marketing.

■ Coffee traders

There are more than 30 coffee traders and exporters that are registered with government agencies and also with NTCDB. These companies and firms are involved in coffee processing, packing, packaging, branding and marketing to domestic and international markets. Recognized brands of Nepali coffee are Necco, Everest Coffee, Morning Fresh, Himalaya Coffee, Jalpa Gold, Mount Everest Supreme, Buddha Organic Coffee, etc.[58]



Photo: *ITC consultation in Pokhhara*

58. TPSD, GFA, Helvatas and NTCDB – Strategic and Capacity Development Plan for Coffee Subsector Development 2016-2018, 2016.

Figure 15: *Coffee value chain map*

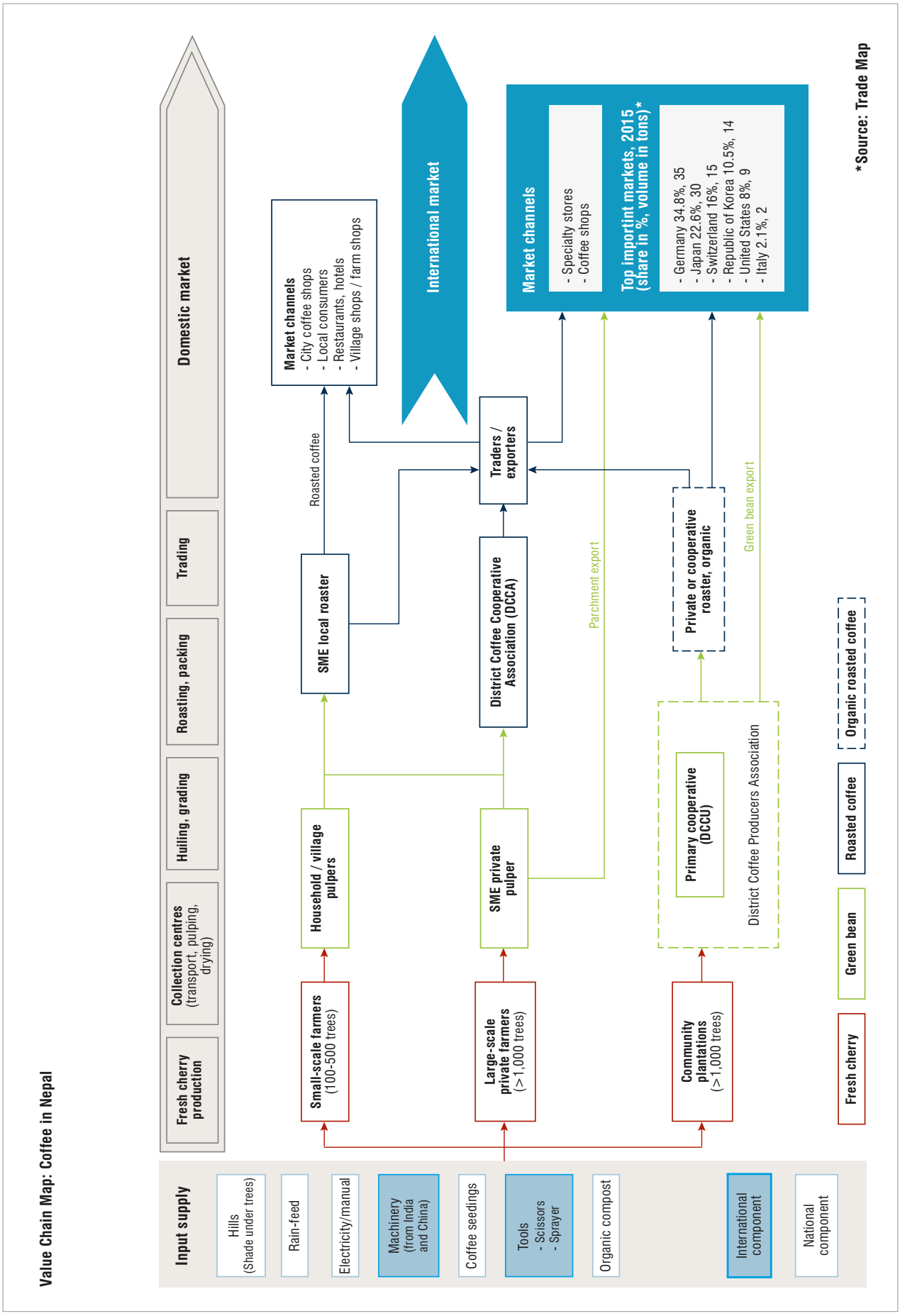
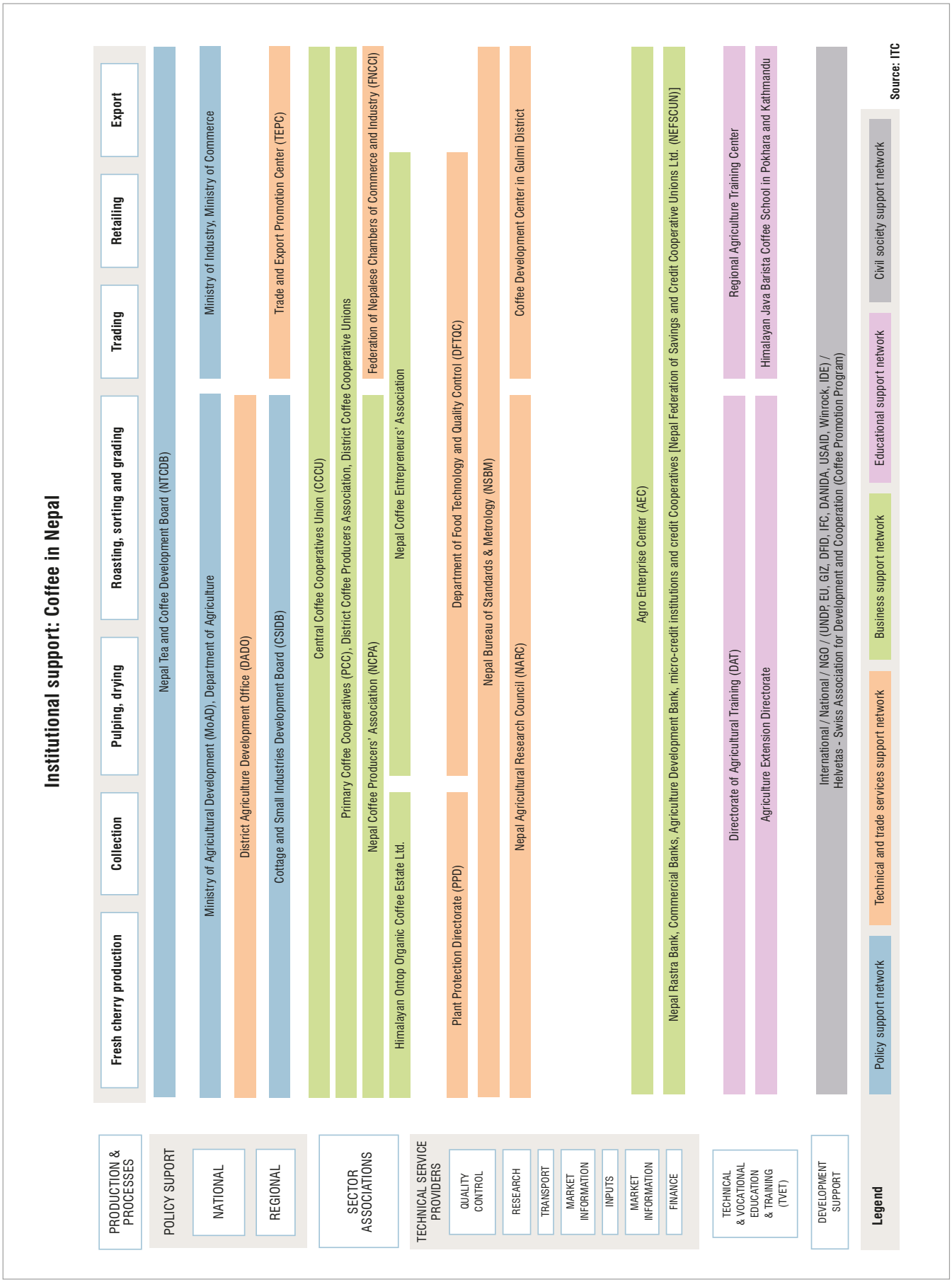


Figure 16: *The Nepali coffee trade support network*



THE TRADE SUPPORT NETWORK

POLICY SUPPORT NETWORK

Ministry of Commerce

Coffee is a mainly export-oriented cash crop of Nepal. Therefore, MoC gives it priority in its policy agenda and intervenes directly in the trade development and promotion of coffee. Coffee was recognized as one of several export products in the Trade Policy 2015 and other government programmes, and MoC has been implementing various products and market development programmes with the direct engagement of the Trade and Export Promotion Centre (TEPC) and Nepal Enhanced Capacities for Trade and Development project of EIF. Currently the EU-funded TPSD Project is focusing on value chain development of coffee as one of the project components in Nepal.

Ministry of Agricultural Development

The sectoral ministries and agencies – particularly MoAD, the Ministry of Industry and other concerned departments and offices at local level – also provide trade and other supportive services at different levels and in selected areas. There are various institutions for the promotion and development of the coffee sector in Nepal. Among them are some major institutions under MoAD:

1. Department of Agriculture
2. NTCDB
3. Department of Food Technology and Quality Control (DFTQC)
4. DADOs (located in 75 districts)
5. Plant Quarantine Check Posts at Customs points, major Customs points
6. Plant Quarantine Regional Office in five Development Regions
7. Coffee Development Centre, Anpchaur, Gulmi
8. Coffee and Tea Development Section, Kirtipur, Kathmandu
9. Agriculture Training Directorate, Harihar Bhawan, Lalitpur
10. Agriculture Extension Directorate, Harihar Bhawan, Lalitpur
11. Coffee Research Centre (CRC), Baletaksar, Gulmi

TRADE SERVICES NETWORK

NTCDB was established in 1993 under the patronage of MoAD, with the objective of promoting and strengthening development of the tea and coffee subsectors through policy formulation and policy research, and technical and managerial support. The major responsibilities of NTCDB include:

- Policy inputs and advice on policy implementation to MoAD;
- Research and feasibility studies and support in production extension;
- Management support for supplies of inputs including tools and equipment;
- Identify critical issues and constraints and recommend measures;
- Technical services to entrepreneurs and industries in respect of marketing, market promotion, market surveys, quality management, branding, etc.;
- Coordination and networking of stakeholders;
- Capacity development of technicians and professionals;
- Operation of the training and research centre to upgrade the knowledge and skills of the institutions and people involved in the sectors.

The Executive Committee of NTCDB is chaired by the Honourable Minister for MoAD and public and private stakeholders are well represented, including private tea producers, private coffee producers, small tea farmers, small coffee farmers, the Nepal Tea Producers Association, MoAD, the Ministry of Finance, MoC, the National Agriculture Research Council (NARC), the Agriculture Development Bank, the Nepal Tea Development Corporation, TEPC, tea industry workers and coffee industry workers. The Executive Director is the member secretary of NTCDB.

NTCDB is also responsible for the management and monitoring of 'the collective trademark'. Nepali organic coffee has been given the collective trademark 'Nepal Coffee' with a logo that was registered with the Department of Industry in 2010. NTCDB issues permits to use the collective trademark to coffee factories and exporters that fulfil norms and standards set out by the Government. The use of the trademark on Nepali coffee guarantees that organic practices have been followed in the production process, production environment, processing and packaging. It is also an assurance of Nepali origin and product quality. A monitoring mechanism has been developed by forming a team to inspect the proper use of the collective trademark by coffee producers. The team is keeping a strict watch to make sure the logo is not used on products that do not meet the standards and that do not originate in Nepal. Recently, initiatives have been taken to register the trademark in the main importing countries of Nepali coffee.

Trade and Export Promotion Centre

TEPC is the governmental focal point authority established in 1971 with the objective of national trade promotion. It supports stakeholders in product development, trade and market research and market promotion of export products of Nepal. It provides services to both the public and private sectors. Besides providing regular feedback on policy issues, TEPC also supports MoC in trade negotiations and advises on market promotion programmes. Currently TEPC has a board of management and is functioning directly under MoC. It plays important research and promotional roles in the areas of: (a) product development; (b) market penetration; and (c) trade information on products and markets including compilation, classification, analysis and dissemination of trade data. TEPC provides effective market promotion services to private sector exporters in organizing and conducting trade fairs and exhibitions and also organizing Nepal's participation in international trade fairs. Other services include market information and market research; training on trading systems, trade policy, buyer–seller meets and store promotions.

TEPC is also responsible for maintaining foreign trade data and informing entrepreneurs about global trade scenarios for major export products. TEPC, in collaboration with NTCDB and other private sector associations, established the collective trademark and logo for coffee as 'Nepal Coffee'. This trademark is already registered with the Department of Industry and TEPC has made a collaborative effort to register the trademark in many other countries.

DFTQC under MoAD provides testing and certification facilities for SPS measures. DFTQC has also been accredited on important parameters applicable for coffee by the National Accreditation Board for Testing and Calibration Laboratories in India and therefore can issue certification for exports of coffee.

Plant Protection Directorate

The Plant Protection Directorate functions under the Department of Agriculture in Kathmandu. It is responsible for implementing the mandates of the Plant Protection Act and Regulations of Nepal and it has been a member of the International Plant Protection Convention since 2006. It has two wings with separate responsibilities: (a) Regional Plant Protection Laboratories (five regional offices including Kathmandu) have responsibility for plant disease and pest diagnosis, surveys, surveillance and information; and (b) the National Plant Quarantine Programme is responsible for quarantine checks and product SPS certification at border points. There are five Regional Plant Protection Laboratories (at Kakarvitta, Birgunj, Bhairahawa, Nepalgunj and Gadda Chauki) and 10 plant quarantine check posts and sub-check posts at different border points in Nepal.

Nepal Bureau of Standards and Metrology

This is the national standards body of Nepal. It is a department of the Ministry of Industry. It has been a member of the International Organization for Standardization since 1991, the International Organization for Legal Metrology since 1983 and the International Electrotechnical Commission since 2001. Its function is to work as a secretariat for the Nepal Council for Standards. It grants the licence to use the Nepal Standards mark on industrial products that comply with the relevant Nepal Standards as approved by the Council. It inspects and supervise activities on industrial production and processes and carries out necessary surveillance in the market.

RESEARCH

Nepal Agricultural Research Council

NARC was established in 1991 as an autonomous organization under the Nepal Agricultural Research Council Act of 1991 to conduct agricultural research at a national level. The development objectives of NARC are to conduct qualitative studies and research, identify constraints and issues, and propose policy and strategic measures for the overall development of agriculture. NARC also coordinates, monitors and assesses agriculture research activities conducted by other government and non-government agencies in Nepal. The CRC in Gulmi district also conducts research on coffee farming and productivity. The Centre, established in 2014, is spread over an area of 5 ha.

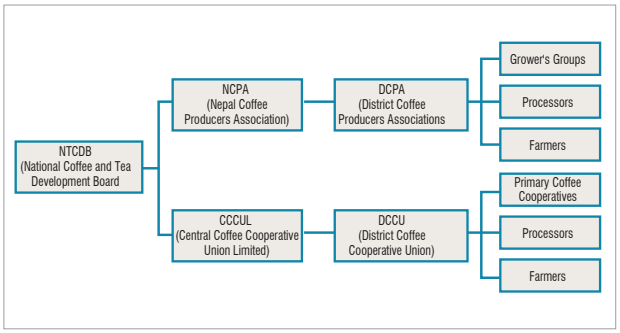
BUSINESS SERVICES NETWORK

Private sector associations and institutions from central to local levels are also active and the Government also promotes such associations to provide trade support services to the private sector, from policy feedback to real intervention in practice. Major organizations directly involved in coffee development are listed below.

Nepal Coffee Producers Association

NCPA represents producer's organizations and businessmen involved in the coffee industry. It was established as a central committee in 1997 and since 2004 it has been running as an association. It mainly works for institutional development and coffee production, processing technology and marketing. It has also been working jointly with the Government of Nepal, the private sector, social organizations and industrialists on policy development and implementation.

Figure 17: *Structure of the cooperatives and producers associations*



Despite various institutional setups, trade support services have not been as efficient as expected. Institutional mechanisms are yet to be effective in providing services to entrepreneurs and exporters to meet global demand. Therefore, additional interventions are a matter of urgency for coffee export development and promotion.

Central Coffee Cooperative Union Limited (CCCUL)

CCCUL is a federated body of primary and district coffee cooperative unions. Presently, there are 57 members including DCCUs. The major role of the CCCUL is to lobby for the development of the coffee sector while coordinating with other coffee stakeholders. It supports the promotion and development of member cooperatives.

Agro Enterprise Centre (AEC)

AEC, set up initially as a project funded by the United States Agency for International Development, is the agriculture wing of the Federation of Nepali Chambers of Commerce and Industry. It is focused on policy lobbying on behalf of private sector entrepreneurs and farmers involved in the production and trade of agricultural crops. It collects and analyses qualitative and quantitative domestic and international information including price, quality and production of agro products; and disseminates this information to stakeholders including the Government, farmers and institutions. In the past AEC has played important roles in policy advocacy for coffee.

Financial support services

Minimum support prices and soft loans for coffee producers and exporters have been instrumental in motivating entrepreneurs to enter the sector. The Government of Nepal is more focused on policy support for the production and promotion of agricultural crops including coffee. Agricultural loans, export credits and cash incentives on exports are some of the major supports. The Nepal Rastra Bank, the central bank of Nepal, has created a special scheme and instructed financial institutions to provide commercial and production soft loans to any enterprise engaged in an export sector. Commercial banks, development banks, credit cooperatives, small farmers' banks and microfinance are the major financial institutions extending credit facilities to entrepreneurs engaged in the coffee sector.

According to this provision, commercial banks are supposed to charge 4% to 4.5% interest, for which the Rastra Bank refinancing rate is only 1%. However, not many entrepreneurs are informed about this provision and the financial institutions have not shown much interest in promoting this scheme due to lower spread or margins compared with normal market rates for other loans and credits. Additionally, the Government of Nepal has taken various supportive measures to promote cooperatives and community-based organizations to work collectively at the local level.

EDUCATIONAL SERVICES

The Government of Nepal has developed a strong institutional base to support capacity development of the policy and functional agencies in the agricultural sector. Tribhuvan University has set up the Institute of Agriculture and Animal Science as a main institute to support capacity-building in the agriculture sector. This Institute gives students the opportunity to select coffee as a major area of study under an elective course. It also encourages conducting research on coffee development and its various aspects, including value chain development.

The Agriculture and Forestry University was established to focus on quality education in the area of agriculture and forestry where both the areas are interlinked and interrelated. Other universities also have agriculture faculties conducting various academic programmes in the agriculture sector, where the coffee subsector is also a priority area.

In addition, foreign universities provide scholarship programmes to Nepali students to pursue various academic programmes abroad. The CRC has been established by the Government at Baletaksar with the objective of dealing with problems related to coffee farming and increasing productivity. These initiatives have been very supportive in promoting and developing the country's coffee sector.

The Regional Agricultural Training Centre and Himalayan Java Barista Coffee School in Pokhara also provide training on coffee production, harvesting and processing. The School provides a 100-hour training course with 70% of the time spent practising under its Barista Training Plan.

ORGANIZATIONS AND COFFEE COMPANIES

There are various organizations, private sector associations, cooperatives and other unions working for coffee subsector development in the country including the District Coffee Producers' Associations (DCPA) and District Coffee Cooperatives Union (DCCU).

TRADE SUPPORT NETWORK ANALYSIS

The coffee sector is still in the early stage of development and thus it is still in the course of determining its trade support network. There are public institutions that provide trade support, a number of which play a critical role in the development of the coffee sector. The most relevant are plotted in figure 18 according to the perceptions of ITC analysts and sector stakeholders in terms of each institution's importance for the sector and its capacity to fulfil mandates as they relate to the coffee sector.

The development of the sector has mostly been driven by the support of NGOs working with coffee cooperatives and NCPA. Given the high export potential in overseas markets, the private sector has gradually started to get involved, followed more recently by a stronger political interest which has unfortunately not yet translated into financial and human resources.

Since the enactment of the NTCDB Act in 1993, the Board has only played a modest role in the development of the coffee sector. Today NTCDB is becoming more proactive in collaborating and coordinating activities with stakeholders for the benefit of the coffee sector. The capacity of NTCDB needs to be strengthened if it is to play a pivotal role in the coffee sector. To achieve this, the Board has developed a new strategic plan –including a human resource development plan– for the period 2016–2018. In the context of the increasing number of coffee growing districts in Nepal, NTCDB needs to show its presence in all districts through deployment of technical staff to assist farmers and PCCs in coffee production, processing and quality assurance.

To conclude, the new political support provided to NTCDB is yet to be transformed into concrete measures that will enable the Board to effectively respond to the specific needs of the sector. NCPA and cooperatives that have benefited from foreign development aid are now facing financial challenges to keep increasing the production of coffee in new areas in Nepal. New partnerships have to be established between NTCDB, NCPA and NGOs in order to accelerate the growth of the coffee sector.

This sector strategy initiative has helped to bring all actors to the same table and identify their common issues, which are described in the analysis of competitive constraints affecting the coffee value chain in the following section.

Figure 18: *Perception of trade and investment support institutions – influence versus capacities*

		Capacity of the institution to respond to the needs of the coffee sector		
		Low	Medium	High
Capacity to influence the coffee sector	High	• MoAD • DADO • NTCDB • AEC • Nepal Bureau of Standards and Metrology • NARC	• MoC • TEPC • FNCCI • DFTQC • PCC • DCCU • NCPA	
	Medium	• Ministry of Industry • Regional Agriculture Training Centre • Coffee Development Centre • Rastra Bank	• DCPA	
	Low	• Directorate of agricultural training • Agriculture Extension Directorate	• Himalayan Java Barista Coffee School • Regional Agriculture Training Center	

Legend: (blue) policy support network, (orange) technical and trade services support network, (green) business support services, (red) educational services

COMPETITIVE CONSTRAINTS AFFECTING THE VALUE CHAIN

A sector's competitiveness depends on a number of factors, ranging from supply of export goods and services to the quality of the business environment, market entry and the development impact of the country's trade, which is important to its sustainability. For a sector export strategy to be effective, it must address a wider set of constraints across these four dimensions of competitiveness. This integrated approach is illustrated by the ITC four gears framework in box 7 below:

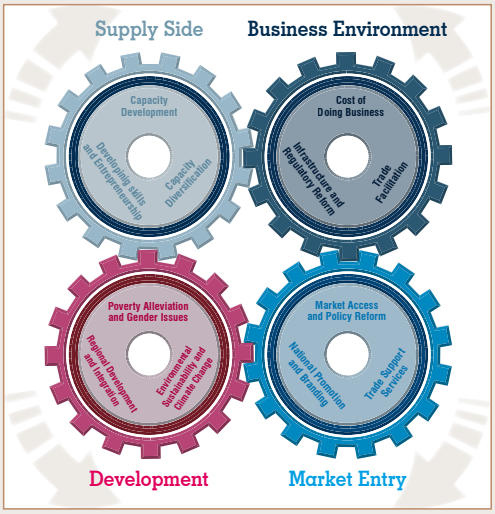


Photo: www.nocp.com, *Nepal organic coffee.*

Box 7: ITC four gears competitiveness constraints analysis framework

Supply-side issues affect production capacity and include challenges in areas such as availability of appropriate skills and competencies, diversification capacity, technology and low value addition in the sector's products.

Social and economic concerns include poverty reduction, gender equity, youth development, environmental sustainability and regional integration.



Business environment constraints are those that influence transaction costs, such as regulatory environment, administrative procedures and documentation, infrastructure bottlenecks, certification costs, Internet access and cost of support services.

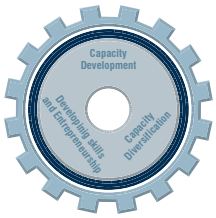
Market entry constraints are essentially external to the country (but may also be manifested internally), such as market access, market development, market diversification and export promotion.

The constraints are classified according to three criteria.

Competitiveness severity The issue is critical for the competitiveness of the sector.	On a scale from 1 to 4: → Low to high impact
Urgent action needed The issue/constraint is hampering export competitiveness and requires immediate action. This could potentially be a quick win in the short or medium term for the implementation of the Strategy.	On a scale from 1 to 4: → Low to high impact
Ease of resolution Assessment based on discussions during stakeholder meetings, taking into account the nature of stakeholders involved in the action, time needed for implementation, investment required, the need to adapt/change the legal framework and the contentiousness of the reform.	On a scale from 1 to 4: → Low to high impact

SUPPLY-SIDE CONSTRAINTS

Supply-side issues impact production capacity and include challenges in areas such as availability of appropriate skills and competencies, diversification capacity, technology and low value addition in the sector's products.



Supply-side constraints: coffee	Competitiveness severity	Urgent action needed	Ease of resolution
Capacity development issues			
Productivity and volume of production are low			
• Insufficient awareness about coffee farming and the need for more plantations in view of increasing demand in the world market for organic and high mountain coffee. • Lack of access to new land to grow more coffee. Government land needs to be accessed for commercial coffee plantations. • Insufficient technological advancement on varietal research requirements. • Absence of support to private sector commercial plantations (apart from supporting farmers and cooperatives).	●	●	◔
Low-quality production processes and product			
• Difficulty getting quality fresh cherries from farmers as they tend to sell immature beans without grading and without proper postharvest practices. • Unavailability of proper, appropriate or standard washing and size grading machines for cherries before pulping. • Unavailability of appropriate pulping machines. Existing pulping machines are imported from China and have been found ineffective at reducing wastage to get good outputs. • Absence of proper parchment drying systems or techniques. • An appropriate mechanical process for sorting, hulling and size grading of parchments is needed. • Inadequate postharvest handling including storage, transportation, packing and packaging. • Unavailability of small irrigation facilities for small farmers. • National standards and the grading system for coffee need to be harmonized with international standards. Currently grading is done based on an ad hoc system; for example, a size above 14 mm is considered exportable and smaller than 14 mm and broken are used for the domestic market. National standards should be fixed, including grading based on the altitudes of production and other parameters of product quality. • Problems controlling parchment moisture levels because of the lack of modern techniques and testing equipment or meters. Currently farmers check moisture using the traditional method of breaking beans with their teeth.	●	●	◔
Insufficient research			
• Not enough research is being done to identify appropriate indigenous plant varieties that are suitable for the agro-climatic and geographical situations (altitudes) of the major coffee production districts. There is only one Coffee Research Programme in Gulmi established by NARC. This programme has just started research activities and will identify plant varieties in the future.	◑	◑	◑

Supply-side constraints: coffee	Competitiveness severity	Urgent action needed	Ease of resolution
Capacity diversification issues			
• Shortage of appropriate technology and improved agronomic (best) practices due to the lack of coffee technical experts in the country. • Unavailability of and knowledge gaps on the most appropriate tools for pruning, weeding and irrigation through the most modern techniques such as water harvesting, water lifting, special pipes, water sprinkling, etc. • Problems of pests and diseases: difficult both to diagnose and to treat those which are already diagnosed. • Knowledge gaps among processers on roasting technology.			
Developing skill and entrepreneurship issues			
• Lack of skilled and specialized human resources and educational and training facilities to produce qualified technical personnel for the coffee sector. • Unavailability of coffee cup tasting experts. • Lack of general awareness among farmers about the advantages of growing coffee.			

SUPPLY-SIDE CONSTRAINTS

Capacity development issues

Nepali organic and high mountain speciality coffee (green bean) fetches a relatively high price in niche markets and current demand for Nepali coffee in the world market far exceeds supply. Regardless of this situation, there is inadequate awareness among farmers and entrepreneurs about the need for more plantations and improvements in quality. In the meantime, progressive coffee farmers and farmers' groups with risk-taking capacity do not have access to land suitable for coffee planting. Therefore, policy and programmes that support coffee plantation extension, commercialization of plantations and effective research on technology and varietal development are lacking.

Coffee growing and processing are relatively new economic activities in Nepal. Farmers and processors are still looking for the most appropriate technology to improve the efficiency of production with quality outputs and competitiveness in the Nepali context. There are still knowledge gaps among farmers and processors on harvesting and postharvest standard practices including washing, pulping, sorting, hulling, size grading, storage, packing, packaging and transportation. Over the years, various machines for these processes were introduced from different sources. However, farmers and processors have found that most of these machines are inefficient and do not reduce wastage in the production process. Farmers and processors also lack mechanical devices to measure the moisture content of coffee beans. There is also an urgent need to introduce modern and economic irrigation systems for coffee plantations.

NARC has recently established the CRC at Gulmi. In the past no agency was serious about identification of indigenous plant varieties that are suitable for the different agro-climatic and topographical conditions in different parts of the country. Lack of identification of varietals is one of the major issues requiring immediate attention from the long-term perspective of development of coffee as an important export product.

Capacity diversification issues

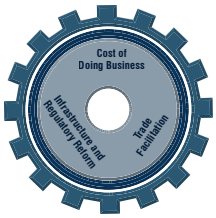
Improved technologies are very much lacking for capacity diversification of the coffee sector. Knowledge gaps among farmers and processors are due to the unavailability of the technical services of highly professional coffee experts. There is an absence of continued and standard technical services for the best agronomic practices, including in the areas of pruning, weeding and irrigation through modern techniques like water harvesting, water lifting, special pipes, water sprinkling, etc. Furthermore, farmers frequently have difficulties finding appropriate management technologies for diseases and pests, and in some cases diagnostic difficulties. Processors are not satisfied with the currently available technology for drying, hauling and roasting in view of high wastage rates.

Developing skills and entrepreneurship issues

The Nepali coffee sector is also facing a severe constraint of unavailability of professional coffee specialists or experts who can support coffee research and training units and also provide technical services in improving coffee farming and processing practices. For example, there is a lack of coffee cup tasting experts and many farmers do not receive appropriate training on Good Agricultural Practices (GAPs) in coffee farming.

BUSINESS ENVIRONMENT CONSTRAINTS

Business environment constraints are those that influence transaction costs, such as regulatory environment, administrative procedures and documentation, infrastructure bottlenecks, certification costs, Internet access and cost of support services.



Business environment constraints: coffee	Competitiveness severity	Urgent action needed	Ease of resolution
Infrastructure and regulatory reform			
• The revised Coffee Policy 2014 is yet to be endorsed by the Government. The national coffee policy is supposed to guide production, processing and marketing development activities covering all aspects including crop insurance; improvement of agronomic practices, harvesting and postharvest practices; facilities for soil testing and treatment; adequate research and development programmes; pest and disease control and treatment mechanisms; land allocation; processing; and marketing. • Non-existence of regulatory provisions such as a lease act to procure land for commercial coffee plantations.			
Trade facilitation			
• High risk of coffee green bean imports from neighbouring countries to compete with and infiltrate the exportable organic coffee of Nepal, necessitating the imposition of strict SPS measures.			
The quality of institutional support			
• There is no effective coordination mechanism and integration of activities of support institutions and stakeholders involved in coffee production, processing and trading. • Absence of an insurance system for nurseries, cultivation, processing and trading of coffee. • Absence of appropriate capacity development mechanisms.			
Ease and cost of doing business constraints			
• There have been delays in payment to farmers. This is due to the fact that in spite of having an acceptable pricing system, a payment scheme has not been set. • There is a distortion in the ongoing market mechanism due to the unfair competition caused by new traders.			

BUSINESS ENVIRONMENT CONSTRAINTS

Infrastructural and regulatory issues

The ongoing Coffee Policy of 2003 covered the different aspects of production, processing, marketing, trade promotion, institutional arrangements and the Coffee Development Fund. With the growth in planting, production and markets for coffee and considering the absence of strong policy guidance in technological and promotional areas, an urgency was felt by stakeholders to revise the policy and introduce modernized management systems and technologies for the development of the coffee sector.

For the past several months, NTCDB and MoAD have been working to get endorsement of the Revised Coffee Policy 2014. However, the approval processing is taking time and is thus holding up progress on coffee sector development. Currently there is absence of proper technical guidance for production, processing and marketing development activities that cover all aspects such as crop insurance; improvement of agronomic practices, harvesting and postharvest practices; soil testing and treatment facilities; adequate research and development programmes; pest and disease control and treatment mechanisms; land allocation for new plantations; processing technologies; and marketing. There is also a lack of regulatory provisions for procurement of land on a lease basis for commercial plantations and contract farming.



Photo: Small dehuller machine

Trade facilitation

Nepal has porous borders in the east, south and west with India and in the north with China. As Nepal produces a limited quantity of high mountain grown organic coffee, which fetches a very high price in world markets, there is a high risk of coffee green bean imports from neighbouring countries competing with and infiltrating exportable organic coffee from Nepal. The concerned authorities have not yet devised any measures to address this issue.

Quality of institutional support

MoAD has made adequate institutional support arrangements for coffee sector development, yet stakeholders experience an absence of effectiveness in coordination and integration of activities of these support institutions that are directly involved in coffee production, processing and trading. Lack of effective coordination has resulted in a number of constraints such as unfair competition from new traders distorting ongoing marketing systems; a lack of appropriate capacity development programmes; delays in payments to farmers even though a committee fixes indicative pricing for fresh cherries; and an absence of insurance systems for cultivation, processing and trading of coffee.

Ease and cost of doing business constraints

Despite the existence of an acceptable pricing system set by the committee for fresh cherries, a payment scheme has not been set, resulting in delays in payments to farmers. Because of these delays, it is difficult for farmers to properly plan the purchase of inputs necessary for production. Additionally, due to increased international demand for Nepali coffee, new Nepali traders have started entering the market. These new players distorted ongoing market mechanisms in the coffee sector for a while. The situation now appears to be managed by various stakeholders but it needs to be carefully monitored to avoid replication.

Testimony: 'The cost for the organic certificates that buyers demand in various countries is very high.'

Roasted coffee exporter,
ITC Non-Tariff Measures Survey, Nepal 2016

MARKET ENTRY CONSTRAINTS

Market entry constraints include issues such as market access, market development, market diversification and export promotion.



Market entry constraints: coffee	Competitiveness severity	Urgent action needed	Ease of resolution
Market access issues			
■ No harmonization of Nepal Standards with international standardized best practices including technical requirements, grading, packaging, branding and SPS compliance, including MRLs.			
Trade services support constraints (in and outside the market)			
■ Difficulty making special transport arrangements for the collection of cherries and green beans due to very low volumes. ■ Unavailability of accredited standard labs for product testing and certification. ■ Lack of facilities for soil testing (testing of different parameters including pH levels) and inadequate research on soil and soil treatment by NARC. ■ Problems of pests and diseases: difficult both to diagnose and to treat those which are already diagnosed. ■ Limited and traditional storage and grading systems at village and district collection centres. ■ Absence of an improved and prompt mechanism to pay farmers after delivery.			
Trade promotion			
■ Modern packing, packaging, branding, trademark and market promotion facilities are needed. ■ Absence of a market promotion programme and a branding programme – there is a need to differentiate between domestic marketing and international marketing (linking the private sector with buyers). ■ Knowledge gaps on appropriate marketing and promotion systems and no coffee market information system targeted at coffee farmers and traders.			

Market access

The Nepal Bureau of Standards and Metrology has developed Nepal Standards for coffee of different types. However, coffee manufacturers and exporters in Nepal have realized that these standards are not up-to-date and harmonized with international standards with inclusion of technical requirements, grading, packaging, branding and SPS compliance such as for MRLs. The absence of acceptable standards has made it difficult to obtain test certificates and compare the coffee standards of different production units with Nepal Standards.

> Testimony: 'The exporter says that he used to export coffee in wooden crates to Australia. Australian Customs officials demanded that the wooden crates go through fumigation. Since there is no fumigation facility in Nepal, the exporter has stopped exporting coffee in wooden crates. Because of this, there has been a significant decrease in coffee exports to Australia.'
> *Coffee exporters, ITC Non-Tariff Measures Survey 2016*

Trade support services

There is a lack of standard research and laboratory services for coffee producers. Currently the laboratories that test coffee are not accredited by reputed international institutions and as a result the test certificates issued by these laboratories are not acceptable to international buyers or to the relevant government authorities of importing countries. Furthermore, there are inadequate research and testing facilities for soil and soil treatment. The testing support extended by the NARC is completely inadequate. Another serious technical difficulty in the production of coffee is the frequent occurrence of pests and diseases. Often it is difficult to diagnose the diseases or pests and those that are diagnosed cannot get proper treatment.

Coffee requires special storage and grading systems. However, farmers still follow traditional storage and grading systems at village and district collection centres. Farmers also face difficulties in making special transport

arrangements for the collection of cherries and green beans from remote areas because of very limited volumes scattered across a wide area.

In terms of marketing constraints, it is felt that the coffee sector has a lot of scope to introduce and improve modern packing, packaging, branding, trademark and market promotion systems and facilities to strengthen its competiveness. NTCDB and TEPC are directly responsible for the promotion, marketing and overall trade of coffee. However, manufacturers and exporters of coffee report an absence of effective market promotion and branding programmes. Additionally, farmers and processors have huge knowledge gaps on appropriate processing and marketing systems and techniques.



Photo: Himalaya Organic Coffee.

SOCIAL AND ENVIRONMENTAL CONCERNS

Social concerns include poverty reduction, gender equity, youth development, environmental sustainability and regional integration.



Social and environmental concerns: coffee	Competiveness severity	Urgent action needed	Ease of resolution
Environmental concerns			
• Climate change: the specific location of Nepal, north of the tropical zone, is a risk factor in relation to changing climate, and important to take into account in the promotion of coffee production to farmers. Climate change might make coffee production unviable in the near future. • Forest degradation: farmers were encouraged to replace their traditional and supposedly inefficient farming methods with the higher yielding technique of sun cultivation. This has resulted in destruction of forests that are critical ecologically – to protect atmospheric dynamics, water quality and wildlife species – as well as economically. • Waste: the process of separating the beans from the coffee cherries generates enormous volumes of waste material in the form of pulp, residual matter and parchment.			
Youth concerns			
• Youth: both men and women essential for the future development of high mountain coffee will remain in Nepal instead of migrating if coffee production and related employment opportunities increase within the country.			
Gender concerns			
• Women will be empowered through increased coffee production and employment opportunities within the country. The current migration of women from Nepal will be reduced to some extent.			

SOCIAL AND ENVIRONMENTAL CONCERNS

Environmental concerns
Climate change and rainfall

Coffee farmers in Nepal have experienced unusual climatic conditions with erratic precipitation and increases in temperature in recent years, slowly affecting the crop output. According to an FAO study, temperature observations in Nepal show a great warming trend with annual mean temperatures increasing by 0.06°C. These increases are more pronounced at higher altitudes and in winter.[59] Several studies have been conducted that found that climate change will have a stronger impact on agriculture in developing countries than in developed countries. Such studies have established that increasing temperatures will directly impact crops' quality and volume by affecting their physiology.[60] Additionally, crop output will be steadily affected through changes in the water regime and increases in the intensity of pests and diseases. A recent study[61] estimated that climate change will reduce the suitable growing area for coffee by about 72% across the selected emission scenarios from now to 2050 due to higher temperatures and shifting agroecological zones. It is high time to consider adapting the future policy measures in Nepal to mitigate the possible negative effects of climate change. Future agricultural research should also focus on developing intercropping and identifying coffee varieties that are tolerant of higher temperatures and erratic rainfall.

Youth concerns and migration

In the three fiscal years from 2012/13 to 2014/15, youth migrated from Nepal to countries other than India.[62] Migration of youths to foreign countries is a major challenge for Nepali society, especially for the agriculture sector. According to the National Youth Policy (2010), youths[63] account for 38.8% of the total population and are valuable assets and a vital resource of the nation for its development as well as being change agents. The poor participation of young people in farming and the agricultural economy must be seen as a matter of grave concern to all; indeed, it directly threatens the future of agriculture and rural economic transformation.[64] Some of the reasons for youth migration from coffee production districts are poor government investment and a low share of donor agencies in the agriculture sector. In addition, the new generation does not want to become farmers even if they are from farming families. Achievement of the 2030 Sustainable Development Goals and reducing extreme poverty and hunger will be very difficult without significant investment in the agriculture sector to attract youths.

Temporary migration workers have had a positive impact on the overall economy and standards of living as the volume of remittances swelled remarkably when new job markets opened up for Nepali workers. The incidence of poverty recorded a decline from 42% to 31%.[65] Migrant workers have developed skills; earned enough to enable household members to access better food, clothing, medicines and education; increased financial and social capital; and empowered spouses with their own earnings as well as remittances from abroad. Irrespective of these positive impacts, there is declining interest in the agricultural sector and with limited supply the wages of agriculture workers have become more expensive, adding to the cost of cultivation. Land use for agriculture has been reduced and most workers are female. There are also many social costs of migration as cases of sexual harassment of migrant women; extramarital sexual relations in home towns; psychological pressure and depression among children; victims of HIV/AIDS; and human trafficking have been frequently reported.

Gender concerns

Women in the coffee sector work in low-paid and repetitive labour-intensive tasks. The overall literacy rate is 51% for women and 72% for men, and this gender difference in literacy is more pronounced in rural areas.[66] This lack of knowledge lowers self-confidence and affects other activities in the value chain in that women are unable to

59. FAO of the UN (2010). Implications of Climate Change for Agriculture and Food Security and Adaptation Priorities in Nepal.

60. SANDEE (2014). Policy Brief, The Impact of Climate Change on Agriculture – A Case Study from Nepal. *Number 79*-14, p.2 explains 'Projections of likely increases in seasonal surface air temperatures and seasonal precipitation levels suggest that there will be a significant acceleration in warming in South Asia and that this will be greater than the rise that was observed during the 20th century. The warming, moreover, is projected to be strongest in the Himalayan Highlands (including the Tibetan Plateau) and in the arid regions of Asia. Studies further project an increase in the inter-annual variability of daily precipitation in the Asian summer monsoon'.

61. Anjitkar S, Sujakhu NM, Merz J, Kindt R, Xu J, Matin MA, et al. (2016). Suitability Analysis and Projected Climate Change Impact on Banana and Coffee Production Zones in Nepal. *PLoS ONE 11(9): e0163916. doi:10.1371/journal.pone.0163916*. Retrieved from http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0163916; also see, International Comunicaffe (2016). Climate change could hurt coffee, help banana production. Retrieved from https://www.comunicaffe.com/climate-change-could-hurt-coffee-help-banana-production/.

62. Government of Nepal, Ministry of Labour and Employment, Labour Migration for Employment, A Status Report for Nepal: 2014/2015.

63. The National Youth Policy defines youth as age 16-40 in Nepal.

64. Panday, D. (2012). Reshaping Youth in Nepali Agriculture. Young Professionals for Agricultural Development (YPARD). Retrieved from http://www.ypard.net/2012-september-3/reshaping-youth-Nepali-agriculture-0.

65. FAO of UN (2010). A Rapid Situation Assessment on Agriculture and Migration in Nepal. UN Complex, Pulchowk, Nepal, p. 1

66. Central Bureau of Statistics and Nepal Planning Commission Secretariat (2012). National Population and Housing Census 2011: National Report. Kathmandu; Pereznieto, P. (2016). Rapid Review of Programmes for Women and Girl's Economic Empowerment. *EPS PEAKS*.p.1.



Photo: Himalayan Java Coffee.

bargain for better quality inputs or practice professional farming, for example. Women's businesses tend to be small and thus subject to high volatility and unable to leverage credit to grow the business (Regmi, 2009).[67]

Customary norms on women's roles in the home and in public life, which often show bias in favour of men, limit women's ability to make decisions, seize opportunities and access productive resources (Chaudhary 2007).[68] In fact, due to the legal and sociocultural norms in Nepal, women experience poverty and inequality to a greater degree than men.[69] They are often excluded from formal processes and structures and lack access to market information technologies and productive inputs.[70] In addition to this, not all women's tasks are economically productive; rural women play roles such as caretakers of family and unpaid family workers.[71] As their tasks are usually more tedious and time-consuming, this leads to time poverty and lost opportunities for women to attend trainings and invest in income-generating activities.[72]

COMPETITIVE CONSTRAINTS ANALYSIS

The analysis of the competitive constraints makes it clear that the sector's sustainable development will require an integrated set of interventions that holistically address challenges across the entire value chain. Roadblocks are not limited simply to enterprise capacities or government policy, and many challenges are the result of a combination of factors that require wide-ranging remediation. It is for this reason that a comprehensive sector export strategy becomes all the more necessary: individual stakeholders, and indeed small groups of stakeholders, will not be able to deal with the constraints on their own. It is only through strategic cooperation that the most effective results will be achieved.

67. *Ibid.*

68. International Fund for Agricultural Development. The Changing Role of Women in the Economic Transformation of Family Farming in Asia and Pacific, p. 3; FAO of the UN (2010). Integration of Gender in Agriculture: An Analysis of Situation. Nepal, p.8.

69. Pereznieto, P. (2016). Rapid Review of Programmes for Women and Girl's Economic Empowerment. *EPS-PEAKS*, p.1.

70. The World Bank (2013). Promoting Agribusiness Innovation in Nepal: Feasibility Assessment for an Agribusiness Innovation Centre, p. 77.

71. FAO (2010). Integration of Gender in Agriculture: An Analysis of Situation. Nepal, p.3.

72. International Fund for Agricultural Development. The Changing Role of Women in the Economic Transformation of Family Farming in Asia and Pacific, p. 3.

THE WAY FORWARD

The coffee sector possesses significant potential to impart socioeconomic contributions to Nepal through export-led and domestic market growth. In order to realize this potential, competitive constraints and structural deficiencies along the four export development gears (supply side, business environment, market entry and development side) will be addressed and identified opportunities will be leveraged. The following is a delineation of the proposed vision and strategic approach in this direction.

THE VISION

> "Promoting Nepali speciality coffee in international markets to boost export revenues and improve livelihoods"

THE STRATEGIC OBJECTIVES

The PoA will respond to this vision by addressing the sector's constraints in a comprehensive manner. To this end, particular efforts will be made to increase Nepali coffee production and achieve economies of scale in order to improve quality and consistency. At the same time, it is necessary to develop the promotion and marketing of speciality coffee of Nepal and to concentrate additional efforts on national sector development coordination.



Strategic objective 1: Increase production of quality coffee cherries.

1. Expand coffee production areas defined in a national production plan.
2. Develop public and private nurseries in collaboration with research centres.
3. Develop a national programme for pest and disease management.
4. Increase productivity of existing farms by promoting GAPs.

Strategic objective 2: Develop support capacities of cooperatives to improve green bean quality and develop organic certification.

1. Promote adoption of best practices for postharvest management.
2. Improve Nepali arabica coffee quality and develop a traceability system.
3. Promote organic certification and establish a certification process.

Strategic objective 3: Strengthen national sector development coordination.

1. Review the national Coffee Policy to reinforce institutional support.
2. Strengthen public–private sector development coordination.
3. Reinforce management capacities and knowledge of cooperatives and small and medium-sized enterprises.
4. Strengthen the capacities of CRC and testing laboratories.

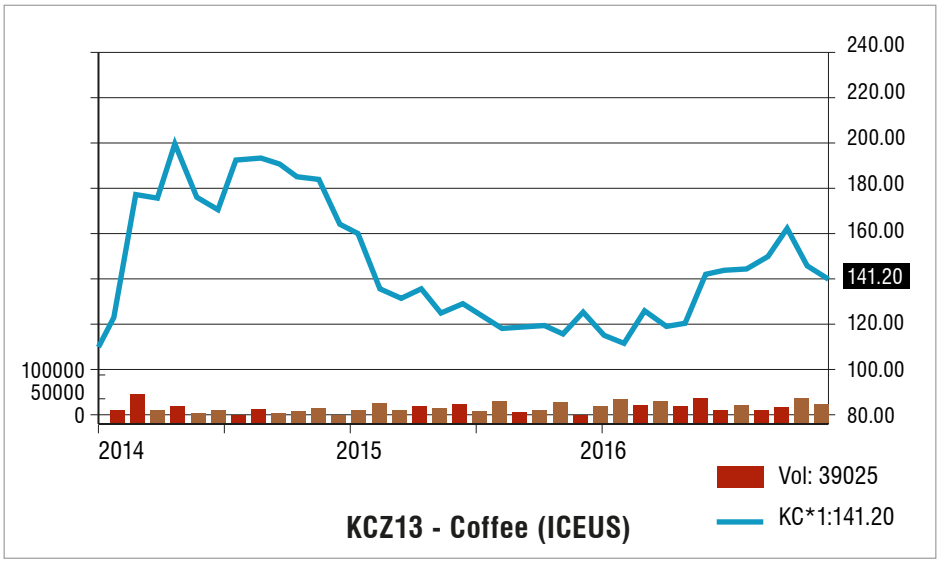
Strategic objective 4: Develop Himalayan speciality coffee recognition in domestic and foreign markets.

1. Reinforce the Nepali Speciality Coffee trademark in domestic and international markets with the Nepal Coffee Logo.
2. Facilitate linkages between cooperatives and private-standard certification agencies.
3. Promote Nepali speciality coffee in target markets.

LEVERAGING MARKET AND PRODUCT DEVELOPMENT OPPORTUNITIES IN THE DOMESTIC AND EXPORT MARKETS

Green coffee quantities produced in Nepal have been up to 500 tons and almost 100 tons were exported in 2014/15 at around $US10/kg. This export price is much higher than international export prices of comparable coffees and much higher than the current (December 2016) arabica price of US$3.11/kg at the Terminal Markets in New York (see figure 19).

Figure 19: *Arabica price quotation in the New York market in US$/100lbs, 2014–2016*



The reasons for these high export prices could be that Nepal is very attractive as a new coffee origin. On top of that, a specific category of clients, mostly composed of fair trade organizations and NGOs, are very motivated to source from Nepal because it is a least developed country. Low coffee availability resulted in high export prices. When more exportable coffee becomes available in the future, these historically high price levels can only be sustained if they are warranted by a high quality coffee. Therefore, promotion of production in the different regions in Nepal should go hand-in-hand with continuous improvements in coffee quality.

In the future, when more coffee will be produced in Nepal, it should be possible to have different qualities of green coffee that are consistently graded into:

- Speciality coffees, with Q Grades higher than 80
- Fair average export quality coffees
- Lower, not exportable qualities.

All of these coffees can be sold to specific markets as described in the summary below and explained in detail in the following section.

Inputs required and supply sources

Quality grade	Target market
Low	Domestic market
Export (fair average quality)	International traders and roasters
	Organic and certified
Speciality	Speciality markets

POTENTIAL IN THE DOMESTIC MARKET

In the domestic market, high quality speciality Nepali coffee can be marketed to the tourist sector. As we have seen earlier, the 'third coffee wave' has arrived in Nepal and speciality coffee is roasted by small artisan roasters and served in coffee bars, high quality restaurants and can be found in tourist shops and at airports. There are even some chains of coffee shops, such as Himalayan Java (www.himalayanjava.com). This market segment can be further developed by making sure the coffee quality is really 'speciality' grade and by improving roasting, brewing and packaging.

Next to the tourist sector, domestic coffee consumption by the Nepali population should also be promoted and export quality coffees can be used for high-end coffee brands in local supermarkets and other retail channels. Lower, non-export qualities can be used for cheap local coffee brands. Nepali people are not used to drinking filtered coffee; Nepali tea is the traditional hot drink. There is very limited knowledge about coffee production among Nepalis. In this regard, the following activities are recommended:

1. Promote speciality Nepali coffee in tourist areas and hotels.

2. Encourage Nepali people to drink filter coffee through launching effective consumer awareness programmes and activities in and outside the Kathmandu valley through television, radio ads, coffee fairs, seminars and workshops and by listing Nepali coffee items on the menus of hotels and restaurants, etc.





Source: ITC field visit in Pokhara



Photo: Nepal Organic Coffee Products,

POTENTIAL IN INTERNATIONAL MARKETS

For the export market, Nepal should try to concentrate on the speciality coffee market. The geographical location of Nepal, out of the tropical zone and in the Himalayas, makes it a highly exotic origin and underlines the speciality character of its coffee. With its small production and logistical challenges, Nepal will never be a competitive player in the international coffee commodity markets of large volumes. The first step should be to improve agricultural production at every stage and improve postharvest processing. It will take time to reach an economy of scale where consistent separation of different coffee qualities can be done. Central washing stations can be considered in some regions. In other regions, some small commercial plantations might set examples as model farms and lead the way.

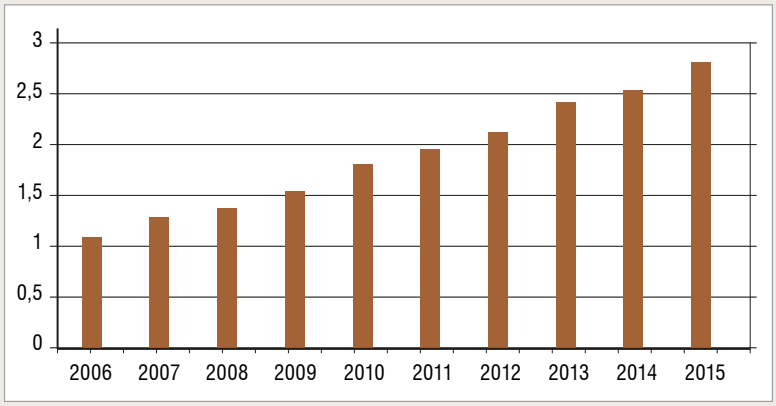
The best coffees should be submitted for Q Graders cuppings and evaluations. These coffees should be kept separate for processing and further grading. These should be marketed as the real Nepali speciality coffee. It will be not difficult to find the best export channels for these coffees: there is a worldwide interest in speciality Nepali coffees from speciality traders and small speciality roasters in North America, Europe, Australia, the Middle East and East Asia. It will be possible as well to export roasted speciality coffee directly to consumers worldwide through Internet sales. However, this requires developing specific skills and investing in equipment. Roasting and packaging should be done to very high standards. Even green coffee can be exported this way. In the case of export quality coffees, Fairtrade and/or organic certifications could serve as an extra marketing tool for certain niche markets (see box 8).

For fair average quality exportable coffees, systematic Nepali standards should be developed and laid down in coordination with international standards and buyers. In this way, consistent grading and recognized quality can be guaranteed and the image of Nepali coffee will improve. For the rest of the exportable coffees, consistent Nepali green coffee standards and specifications should be developed and laid down: screen size, kind and number of defects, etc. Once established, the Nepal brand could be given to coffees that comply with this quality standard.

Box 8: Fairtrade and organic coffee

The market for Fairtrade coffee could be very interesting for Nepali coffee cooperatives. Many consumers in Western markets would like to contribute to the social and economic development of Nepal and for them, this is a reason to purchase Fairtrade certified products. The most important markets for Fairtrade certified coffee are North America and Europe. In these markets, Fairtrade certified coffee is almost 3% of the coffee market (United States: more than 5%). In general, 40–50% of certified Fairtrade coffee is also certified organic (United States: 60%, worldwide: 34%).

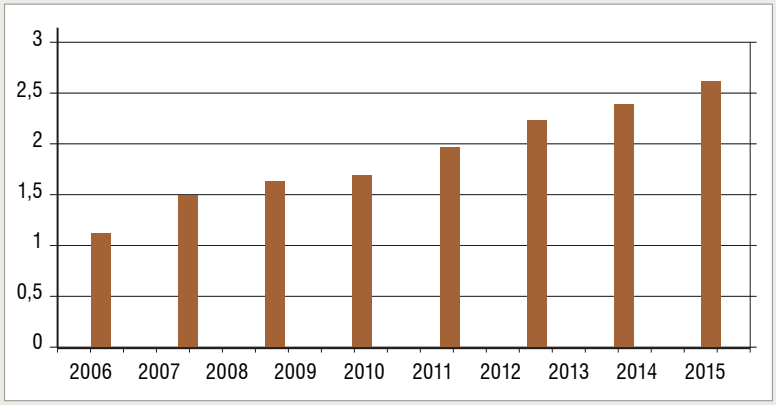
Figure 20: *Worldwide sales of Fairtrade certified coffee in million bags, 2006–2015*



Source: Fairtrade International - www.fairtrade.net.

Another interesting niche market is the certified organic segment. The most important markets for certified organic coffee are North America and Europe. In these markets, certified organic coffee is about 3–5% of the coffee market but there are no reliable statistics available. There are also other important markets, like Australia and East Asia.

Figure 21: *Worldwide sales of certified organic coffee (million bags), 2006–2015*



Source: IISD5/ITC,6 updated by Joost Pierrot.

Table 12 summarizes the potential markets for each coffee quality grade between roasted coffee and green beans. It also presents the key constraints and suggested actions in this export strategy.

Table 12: *Summary of high potential products for domestic and international markets*

Time frame	Products	Producer type	Key constraints	Suggested actions at the market level	Domestic market	International market
Green coffee: General first priority – production increase						
Medium term	Speciality (Q Grade >80)	Very experienced commercial growers from the best coffee regions	» Quantities of coffee too small » Economy of scale » No consistent high quality » Wet and dry processing inadequate » Dehulling and grading inadequate	» Increase coffee cultivation » Q grading reports required for quality assessment » Dehulling, grading, selection to be improved » Pay according to quality of cherry or parchment » Centralized wet processing » Establish Nepali standards for green coffee (standards / specifications / descriptions to be laid down)	Roasters for high quality speciality coffee for high- end supermarkets, airport shops and tourists in Nepal; coffee shops, cafés, hotels, restaurants	Traders and roasters, concentrating on speciality coffee in the EU, United States, Republic of Korea, Japan, etc. *At this stage no further market study is required as Nepali coffee traders are already facing supply shortage*
Short term	Export quality: conventional and certified (Fairtrade and/or organic)	Experienced commercial growers	» Agronomy » Lack of expertise » Inadequate wet processing	» Training, extension on GAPs for coffee production » Centralized washing stations, or at least improved wet processing » Centralized dehulling and grading		Traders and roasters, concentrating on fair average quality coffees in the EU, United States, Republic of Korea and Japan
Short term	Low quality	Commercial and starting growers	» Agronomy » Lack of expertise » Inadequate wet processing	» Training, extension » Seedlings distribution	Local roasters of low price coffee for the domestic market	No export
Roasted coffee						
Short term	High quality	Small and medium-sized enterprises	» Availability of consistent high quality green coffee » Availability of adequate roasting and grinding machines	» See above » Invest in machinery	» Retailers to: Nepalis, tourists in Nepal; coffee shops, cafés, hotels, restaurants » Coffee shops » Domestic consumption	Internet sales
Medium term	Low and medium quality	Small and medium-sized enterprises	» Availability of consistent low and medium quality green coffee » Availability of adequate roasting and grinding machines	» See above » Invest in (used) machinery		No export

TRADE FAIRS

Participating in international trade fairs is an effective way of gathering market information, getting to know the competition and meeting potential buyers. It is also a good way of increasing the exposure of Nepali coffee in the world market. Trade fair websites usually propose catalogues which help to identify potential buyers. A few examples of important trade fairs and forums are presented in box 9.

Trade fair participation: Without proper preparation, trade fair participation is useless. Some important things to consider:

- Start early with the preparation and decide what your goals are to participate in a fair.
- Make sure there are English-speaking staff at the booth.
- Prepare samples of green coffee for display in an attractive and professional manner and put an attractive sticker on giveaway samples.
- Arrange for coffee brewing so visitors can taste your coffee, and make sure you have coffee cups.
- Make sure to have enough business cards and brochures.
- Understanding and detecting visitor motives and interests increases your effectiveness.
- Ask visitors for their business cards, make notes of every meeting and give a priority rating.
- Have documentation for all coffees on display.
- Make sure that your website is up-to-date.
- Make attractive posters to decorate your booth.



Photo: ITC, *Coffee beans at different processing steps*

- Send out prior invitations to as many prospects as possible.
- If possible, participate with at least two persons so there is time to look around.
- Book your travel and hotel in time.

The local Nepali embassy or trade consul needs to be involved to assist in preparations and facilitate communication. Without adequate follow-up, trade fair participation is useless and a waste of money: The costs of trade fair participation are high and the value of contacts made at a fair are costly. Therefore, follow up on the contacts you made and do what you promised to do. At least send an e-mail to thank them for the meeting. Make sure to reserve time for follow-up after you return home.

Box 9: International coffee trade fairs and forums

- SCAA Expo – international exhibition and conference on speciality coffee: every year in a different city in the United States
- SCAE Expo – international exhibition and conference on speciality coffee: every year in a different European city.
- TriestEspresso – specialized trade fair on espresso coffee, held every two years in Trieste, Italy.
- COTECA – international trade fair for coffee, tea and cocoa in Hamburg, Germany, held every two years.
- Café Asia – international coffee exhibition in Singapore.
- Tea & Coffee World Cup – international coffee and tea trade fair, held annually in different cities worldwide.
- BIOFACH – the most important international exhibition for organic food and fair trade products, held every February in Nuremberg, Germany. It is a crucial trade fair for companies that sell organic coffee.
- World Tea & Coffee Expo, Mumbai, India – international tea and coffee exhibition.
- Tea and Coffee China, Shanghai – international tea and coffee exhibition.
- The following two fairs can be useful for discovering new trends and learning about the European consumer market for coffee:
  - » Anuga – the world's leading food fair for the retail trade and the food service and catering market. It is held every two years in Cologne, Germany.
  - » SIAL – one the world's largest food exhibitions, encompassing a number of food ingredients and final products, including roasted coffee. SIAL is held every two years in Paris, France.

STRUCTURAL IMPROVEMENTS TO THE VALUE CHAIN

A number of structural improvements to the value chain were suggested by value chain stakeholders and are grouped according to the following five value options:

- Improve efficiency: develop a high level of integration among supply chain actors
- Value retention: retain more value in the country
- Value addition: add value by improving existing products
- Value creation: create value by developing new products
- Value distribution: contribute to the socioeconomic development of the country.

Table 13 summarizes the different structural improvements and activities to be implemented within the value chain in order to improve its competitiveness. Major structural adjustments are also highlighted with the following icon and then illustrated in the future value chain map schematic in the next section (see figure 25).

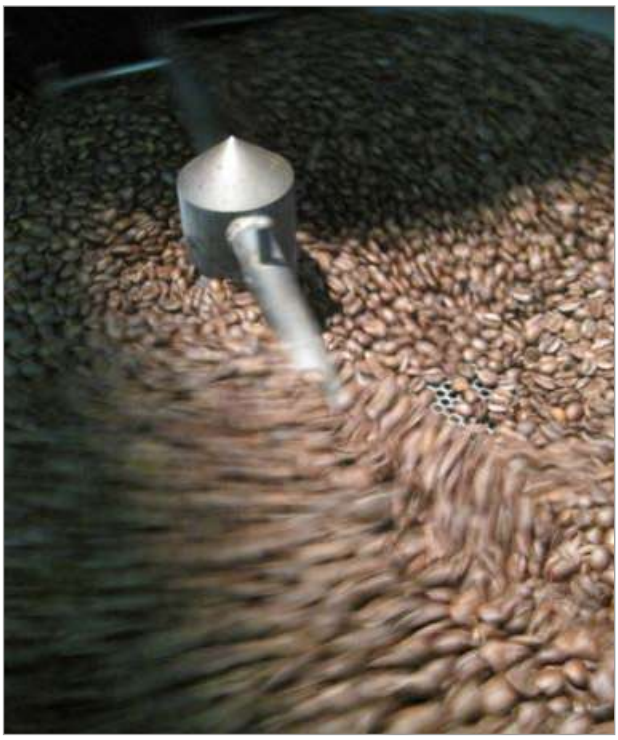


Photo: Michael Allen Smith, *Cooling the Beans – Velton.*

Table 13: *Value options for the coffee sector*

Improve efficiency: Acquire value by improving efficiency within the national components of the value chain (and thereby enhancing the sector's competitiveness).		
Value option	How to implement	Time frame
Foster collaboration between cooperatives, commercial farms, NTCDB, MoAD and active donors to increase production.	• Develop a national coffee policy and set up a public–private institutional mechanism to foster the development of the Nepali coffee sector, including development agencies. • Establish a national production plan to expand coffee planting and production based on a feasibility study. • Strengthen and operationalize the Coffee Division within NTCDB and establish a monitoring system for sector development. • Create an awareness-raising campaign for farmers and cooperatives in new districts on coffee production and market opportunities.	Short term
Foster collaboration between cooperatives, NARC and MoAD to boost creation of certified nurseries.	• DADO and NTCDB should consider the creation of satellite coffee nurseries managed by DADO extension officers and under the technical supervision of the future upgraded CRC at Baletaksar. • A quality accreditation system for private nurseries needs to be put in place to grow disease-free, clean and healthy planting material.	Short term
Develop sector-specific research capacities and foster collaboration between private sector and public technical agencies.	• Strengthen existing CRC and laboratories. • Conduct in-depth studies and research on varietals and the production system. • Develop partnerships with international coffee research institutes and development programmes (World Coffee Research, Coffee Quality Institute, International Fund for Agricultural Development) to hire foreign agronomists and build exchange study programmes to train Nepali coffee agronomists.	Medium term

Value retention: Minimize postharvest losses, lower production input costs through collective bargaining and creation of local services, and develop a high level of integration among supply chain actors.		
Value option	How to implement	Time frame
 Improve productivity of existing orchards and cherry quality.	• Promote GAPs for coffee regarding inputs and production techniques. • Develop master training capacities aimed at propagating best practices in the field and in orchard management to all stakeholders. • Develop guidelines and booklets for farmers in Nepali, as well as a radio programme on best practices about GAPs (including land preparation, weeding and thinning, proper manuring and covering, shade regulation and irrigation). • Develop an information, education and communication system and disseminate training materials to farmers. • Develop a national pest and disease management programme. • Launch extensive training and awareness-raising programmes among farmers on better techniques for quality farming, disease minimization and control, productivity growth and farm management, as well as postharvest handling and processing. • Develop a campaign to disseminate knowledge on pest and disease management and develop a basic curriculum manual to dispense to farmers. • Adhere strictly to quarantine regulatory practices on imports of coffee seedlings from foreign countries. • Develop model coffee farms. • Support the development of commercial farming.	Short term
 Improve harvest and postharvest activities in wet processing and upgrade technology and practices for dehulling, sorting and grading.	• Promote adoption of best practices for coffee postharvest management to improve value retention. • Invest in coffee machinery of all kinds (hand pulpers, high quality small electric pulping machines, plastic buckets, wire mesh for drying and moisture meters) to minimize technical losses and upgrade technology. • Develop centralized wet processing and establish a model pulping centre for demonstration and training. • Develop centralized mechanical sorting stations and invest in dehullers, destoners, size sorting tables, gravity separation, electronic sorters, silos and sample roasters. • Improve storage conditions to control moisture levels and improve packaging for export.	Short term
Value addition: develop the production of higher-value added products and differentiated products.		
Value option	How to implement	Time frame
 Improve the quality of roasted coffee and knowledge about coffee cup tasting.	• Invest in coffee roasting machines, grinders, packaging of roasted coffee and printing machines for the domestic market. • Carry out a training programme on coffee roasting and cup tasting. • Train selected Nepali coffee experts on liquoring technique and provide official recognition in partnership with SCAA/SCAE.	Short term
 Achieve speciality status in the international market.	• Identify farms and/or districts with speciality quality coffee. • Organize testing and obtain quality certification in partnership with SCAA/SCAE. • Organize a market promotion campaign through domestic and speciality coffee conferences and trade fairs. • Organize cup tasting and quality contests in Nepal.	Medium term
 Improve quality management by developing a traceability system between value chain actors.	• The batch has to be registered from local production to district traders and exporters to ensure traceability. This can be achieved by preharvest distribution of bags labelled with the GPS number of each farmer.	Long term

Value creation		
Value option	How to implement	Time frame
VC1 Reinforce the Nepal Coffee trademark in domestic and international markets with the Nepal Coffee Logo.	• Redefine the trademark and branding strategy objectives and compliance requirements, administration process, branding strategy and sustainable funding mechanism. • Review quality standards for Nepal Coffee in line with buyers' requirements and international best practices for high quality coffee and speciality coffee. • Carry out a market promotion programme for existing competitive coffee exporters, targeting international specialty coffee trade fairs.	Short term
VC2 Increase the production of coffee compliant with private organic and sustainability standards.	• Support development of integrated pest management and organic coffee cultivation. • Develop trainings on organic and fair trade standards and certification. • Set up a certification extension network and support to certify farmers and processing units on private standards such RA, Fairtrade and organic in collaboration with coffee sector. • Declare a specific organic production area.	Medium term
Value distribution: Economic and social development opportunities		
Value option	How to implement	Time frame
VD Promote the integration of women and young smallholders in the sector.	• Encourage women to participate in sector cooperatives. • Encourage young smallholders and entrepreneurs to develop coffee production. • Develop barista, coffee cupping and coffee brewing trainings. • Organize market orientation missions.	Short term

IMPROVE EFFICIENCY

Despite high export potential, Nepal lacks an effective institutionalized process of value chain development to support the entire supply chain of potential products.

Foster collaboration between cooperatives, NTCDB, MoAD and active donors in the Nepali coffee sector to increase production

Improving the overall production of Nepali coffee and satisfying quality consistency to ensure 'speciality coffee' market status requires the coordination of all activities (detailed below) through a single entity and the support of all sector stakeholders. The Coffee Policy 2003 increased coffee production, facilitated access to land and improved export promotion. Now the sector needs to go a step further by expanding production in new areas while improving quality consistency, so the Coffee Policy needs to be reviewed to integrate these new challenges in order to become more competitive and increase its exports volume. The new coffee policy should focus not only on creating awareness about potential new revenue for farmers in newly identified production areas but also, and in parallel, on quality improvement management, pesticide control and improving testing facilities for MRLs in Nepal.

The success of the implementation of such a policy is the responsibility of all coffee stakeholders. NTCDB must play a key role in the coordination of the activities, as other coffee national boards are doing in competing countries. It is vital that NTCDB defines – in close cooperation with cooperatives – a national annualized and geographic production plan with agreed production targets and quality monitoring.

The following actions will be required:

1. Develop a national coffee policy and set up a public–private institutional mechanism to foster the development of the Nepali coffee sector, including development agencies.
2. Establish a national zoned production plan to expand coffee planting and production based on a feasibility study.
3. Strengthen and operationalize the Coffee Division within NTCDB and establish a monitoring system for sector development.
4. Create an awareness-raising campaign on coffee production and market opportunities, aimed at farmers and cooperatives in new districts.

Foster collaboration between cooperatives, NARC and MoAD to boost creation of certified nurseries

In order to support the rapid expansion of production, there is increasing demand for saplings to quickly plant new orchards in various districts and keep developing growing areas in central and western Nepal. Private nurseries will have limited production capacity of seedlings from 2018 onwards. Unfortunately these programmes cannot meet the ever-increasing demand of virus-free seedlings in spite of their long fruit-bearing time.

Additionally, there is no any agency to monitor whether the seeds that are distributed are good in terms of quality and germination. Similarly, as there are few commercial nurseries to produce and distribute quality saplings, farmers are compelled to buy saplings from home nurseries, most of which do not produce quality saplings. To avoid these problems related to seeds and saplings, commercial nurseries need to be established. As the coffee plant matures at 7–8 years, it is believed that seeds from plants of this age are of higher quality.

The private sector needs to be further involved in the establishment of coffee nurseries. The current subsidy systems are effective but there is still a gap in the production of seedlings.

1. DADO and NTCDB should consider the creation of satellite coffee nurseries managed by DADO extension officers and the technical supervision of CRC. Additionally, the new CRC must play a leading role in assisting private nurseries and ensuring access to disease-free quality input materials.
2. A quality accreditation system for private nurseries must be put in place to grow disease-free, clean and healthy planting material, managed in close collaboration between NARC, CRC, DADO and MoAD.
3. Private nursery owners will have to follow an advanced course on nursery and pest/disease management. CRC experts would then closely monitor these types of nurseries. CRC will carry out regular training of trainers programmes on GAPs.

Develop sector-specific research capacities and foster collaboration between the private sector and public technical agencies

Arabica, the variety of coffee which is grown in Nepal, is imported from various origins without any proper control. There has been only limited research undertaken in areas such as agro-climatic zoning and adaptability, productivity and resistance/susceptibility to pests and diseases. The future of the coffee sector is linked to its capacities to build clear differentiation from its main competitors in terms of aromatic qualities.The development of a dedicated CRC needs to be strengthened as soon as possible with all appropriate facilities in terms of: 1) research capacities on upgraded approaches to current agrochemical management practices, research on soil fertility and use of biopesticides in coffee plantation areas; and 2) capacity-building and informative programmes on coffee cultivation in close collaboration with processing units, cooperatives, commercial farms and smallholders. The CRC's long-term objective is to build a group of coffee agro-specialists to support the development of coffee varieties adapted to Nepal's agro-climatic zones.

CRC will need to develop partnerships with international research institutes to reinforce its expertise and bring new approaches; for instance, World Coffee Research, the Coffee Quality Institute (www.coffeeinstitute.org) or the International Fund for Agricultural Development.

1. Strengthen existing CRC and laboratories.
2. Conduct in-depth studies and research on varietals and the production system.
3. Develop partnerships with international coffee research institutes and development programmes (World Coffee Research, the Coffee Quality Institute, International Fund for Agricultural Development) to hire foreign agronomists and build exchange study programmes to train Nepali coffee agronomists.

VALUE RETENTION

Improve the productivity of existing orchards and cherry quality by promoting GAPs, and support development of commercial farming and smallholder clusters

Improving orchard management practices will maintain healthy gardens and increase productivity. There is a clear lack of knowledge on the part of farmers about how to cultivate coffee because the plant has been recently introduced and farmers do not consume coffee themselves. There is a clear need to disseminate GAPs about aspects such as shading, irrigation, manuring, weeding, trashing, soil moisture, monitoring and management of pests.

1. Upgrade orchard management by disseminating specific GAPs, including knowledge about soil preparation, soil nutrients, pest and disease control, and shade tree management through specialized training, model farming and demonstrations.

   Weeding and thinning, proper manuring and covering, shade regulation and timely irrigation are major works that need to be carried out regularly by farmers. Most farmers do this work or hire labour directly or through contracts. The recommended orchard management practices need to be demonstrated to

all coffee farmers as the commercialization of monoculture demands that specialized jobs be done in a specified manner. There are examples of farmers who are successfully running coffee farming as a business.

Traditional practices need to be revisited in order to develop commercial coffee farming because it requires specialized knowledge and skills. Model farms and practice/demonstration farmers can be can jointly supervised and organized by DADO and field technicians in order to share techniques with a large number of coffee farmers. Additionally, preparation of audio-visual aids from model farms and farmers will help in large-scale dissemination of information to farmers located in remote areas.

Government service providers at DADO and agriculture technicians also need to upgrade their knowledge of and skills in coffee farming. Private actors such as lead farmers and nursery owners also need to be knowledgeable and skilful in dealing with coffee farmers regarding planting, equipment and tools, with proper care and handling techniques. The following activities will need to take place.

2. Promote GAPs for coffee regarding inputs and production techniques.
- Develop master training capacities aimed at propagating best practices in the field and in orchard management to all stakeholders.
- Develop guidelines, radio programmes and video programmes on best practices about GAPs (including land preparation, weeding and thinning, proper manuring and covering, shade regulation and irrigation).
- Develop an information, education and communication system and disseminate training materials to farmers.

3. Develop a national pest and disease management programme.
- Launch extensive training and awareness-raising programmes among farmers on better techniques for quality farming, disease minimization and control, productivity growth and farm management as well as postharvest handling and processing.
- Develop a campaign to disseminate knowledge on pest and disease management.
- Adhere strictly to quarantine regulatory practices on imports of coffee seedlings from foreign countries.
- Support development of model coffee commercial farms.

Production is scattered across marginal farms and smallholdings which limit the production growth of the sector and tend to also increase the cost of production. Therefore, supporting the development and upgrading of commercialization of coffee farming seems to be an important step. This process has already begun but it has to be adequately supported given the geographical structure of Nepali hills, which does not permit large-scale farming. In this regard, use of community forests and leasehold forestry could also be considered an important factor in the process of commercialization of coffee in Nepal. To support the commercialization process, actions need to be taken in the following areas.

4. Support development of commercial farming and pilot farmers' clusters

Cooperatives do not necessarily have enough capacities to support large groups of farmers. Developing commercial farming and also assisting farmers to create clusters of 5–7 individuals would facilitate the rapid development of production.
- Make available adequate land on long-term lease at a low interest rate.
- Use previous zoning studies to set commercial production areas.
- Define the size of commercial farming and corresponding supply of seedlings. A commercial farm should have 300–500 producing plants.

Improve harvest and postharvest activities in wet processing and upgrade technologies and practices for dehulling, sorting and grading

Know-how about harvesting is of the utmost importance from the production point of view but also from the quality aspect of the green bean. Specific training in this area helps farmers improve their picking ability, especially choosing the right time to pick the cherries, thus avoiding the picking of both unripe and overripe cherry. This situation tends to reduce the quality and increase the production cost as it affects the total volume of production as well as the labour charge needed to sort out the mixed unripe and overripe cherries. Therefore, cooperatives have to promote and explain good harvest practices which not only increase the total volume of coffee but also enhance the quality of the final product.

Additionally, continued efforts have to be made to improve postharvest practices and processing in order to reach top coffee quality. Processing efficiency in Nepal can be enhanced by minimizing processing losses due to technical losses and manual handling during depulping operations. Farmers and cooperatives have been equipped with registered electric pulping machines and in certain cases with hullers. Processing units are limited to this equipment. The absence of proper infrastructure for wet processing is a critical element for the future development of the sector. Centralized processing units need to be developed and strengthened in terms of equipment, including adequate sources of water, rainwater collection ponds, plastic buckets with covers and jars, wire mesh for drying, moisture meters and packing materials.



Photo: ITC, *President of the coffee cooperative in Pohkara demonstrating coffee packaging*

Similarly, there are currently only a few mechanical sorting facilities established in Nepal. Quality would be also substantially greater if a higher level of mechanical sorting of parchment beans and dry beans was practised. In the same way, adoption of any mechanical means of quaker (unripe coffee bean) separation and drying would lead to both improvement in the quality and huge time savings in the case of parchment beans.

There are small dry mills available that can be used by cooperatives or farmers' associations to mill parchment coffee sourced either from hand pulped coffee or from a central washing station. However, these mini mills do not cover the complete processing and the green coffee produced will require further size grading and cleaning before being export-ready.

The following activities are required:

1. Promote adoption of best practices for coffee postharvest management to improve value retention: create a handout for farmers in Nepali languages, with basic instructions supported by pictures.
2. Invest in coffee machinery of all kinds (hand pulpers, high quality small electric pulping machines, plastic buckets, wire mesh for drying and moisture meters) to minimize technical losses and upgrade technology.
3. Develop centralized wet processing and establish model a pulping centre for demonstration and training.
4. Develop centralized mechanical sorting stations and invest in dehullers, destoners, size sorting tables, gravity separation, electronic sorters, silos and sample roasters.
5. Improve storage conditions to control moisture levels and improve packaging for export.



Dry destoners

http://www.mckinnon.co.in/dry-processing-machinery.html



Coffee huller



Hulling, polishing and size grading set for small growers and millers

http://www.pinhalense.com.br/en.equipment.php?id_maquina=160#equipamentos-holder

Box 10: Packaging for shipment

Usually green coffee beans are packed in jute or sisal bags (60 kgs), in 20 foot containers (300 x 60 kg). High quality green coffee can be packed in GrainPro ziplock bags (for instance 25 kg or 60 kg) in bags, or bags in cartons, usually in smaller quantities, or can be vacuum packed. These two methods protect the beans from moisture, insects, pests or other damage. Coffee can be shipped by sea but also by air, which is a realistic option for small (up to one ton) quantities of high quality coffee. High volumes (Brazil, Viet Nam) are sometimes shipped in big bags, without jute bags, directly in containers.



Picture: Vacuum-packed green coffee: https://twitter.com/caravelac/status/460829790283771904



Picture: GrainPro bags: www.primeracoffee.com/?project_categories=grainpro&post_type=project



Picture: Big bag
www.corrpakbps.com/cl_bw_liner.html



Picture: 250–300 bags (17–18 tons) in a 20 ft container
http://vnfoodco.com/san_pham_chi_tiet/59/coffee/coffee-container.html

VALUE ADDITION

As a landlocked country with many logistical issues and non-tariff barriers at its borders, Nepal cannot compete on price in the commodity coffee market. Therefore, the only option is to focus on the quality of its coffee. When there is more coffee cultivated, the economy of scale will result in more consistency and quality, provided that enough extension services and advice are made available to farmers.

Improve the quality of roasted coffee and improve knowledge about cup tasting

Coffee quality is greatly influenced by the roasting process. Wet-processed coffees usually produce the best roasts, especially when the parchment has been properly sun-dried. Brilliant roasts with white centre-cuts are a hallmark of well-prepared and well-dried coffee. Underdrying, on the other hand, produces dull roasts. Strong growth in the speciality and whole bean segments of the consumer market has rekindled the emphasis on a coffee's roast appearance, and at the retail end the roast is perhaps the first thing the consumer really looks at.

The cup remains the most important determinant of a coffee's usefulness and value. All exporters grade coffee visually by size and defect count but not all perform cup tests. Only the cup can reveal a coffee's true value, however, and exporters who cannot taste cannot bargain as equals with importers and roasters who always taste. Taste is a highly subjective matter and different tasters or liquorers will have different opinions on the quality, appeal and value of a particular cup or liquor. There are no international cupping standards and nor is the terminology standardized. This adds to the subjectivity. Coffee tasting and wine tasting are comparable: both are done to determine quality, usefulness and price.[73]

73. International Trade Centre (2011). The Coffee Exporter's Guide: Third Edition. *Chapter 12- Quality Control,* p. 220.

A few coffee shops affiliated with cooperatives have developed their own roasting units over the last decade. Himalayan Java Coffee offers barista training including a comprehensive coffee making training programme. The sector needs to develop its expertise in roasting coffee and sensitize all stakeholders about cup tasting. A few Nepali experts need to master the liquoring technique. Trading quality coffee is impossible without liquoring expertise.

The following activities are required:

1. Invest in coffee roasting machines, grinders, packaging of roasted coffee and printing machines.
2. Carry out training programmes on coffee roasting and cup tasting.
3. Train selected Nepali coffee experts on liquoring techniques and provide official recognition in partnership with SCAA/SCAE.

Achieve speciality status in the international market

Because consumers in the international market are increasingly demanding and becoming more sophisticated regarding both quality and image, there is a very good demand prospect for both speciality and organic coffee. So far, it has been the special origin of its coffee (Himalaya, extra-equatorial, fair trade) combined with low availability, rather than the quality itself, that has triggered buyers to pay high prices for Nepali coffee. If Nepal wants to position itself as an origin of speciality coffee, the most important factor is quality. In the future, when more coffee will be produced, it is very possible that these high prices will not be sustained if the quality does not increase and is not consistent.

As explained in the ITC *Coffee Guide*, the Q Coffee System, developed by the Coffee Quality Institute, is an ongoing initiative to introduce internationally accepted standards for quality, both cup and grade, for the speciality coffee trade. The underlying assumption is that while anyone can state they have quality, companies that have their coffees graded through the Q Coffee System will have the ability to provide their customers with a guarantee from a credible and independent third party. The Q Coffee System is presented as an effective way to source coffees, allowing companies to develop specifications unique to them and more effectively differentiate themselves against the competition.

Using technical standards developed by SCAA or SCAE, the Q Coffee System institutes a common language for quality that makes quality less subjective, levelling the playing field for producers. In the Q Coffee System, three licensed Q graders, professionally accredited cuppers, evaluate the coffees. The scores are then averaged to produce a Q Certificate that includes a point rating and a cup profile of the coffee. The Q Certificate provides the necessary information to communicate quality to customers and consumers, fostering their interest in the coffee you offer.

NTCDB needs to develop partnerships with foreign coffee experts to develop Q Coffee grading done at the estate or cooperatives level.

1. Identify farms and/or districts with speciality quality coffee.
2. Organize testing and obtain quality certification in partnership with SCAA/SCAE.
3. Organize market promotion campaigns through domestic and speciality coffee conferences and trade fairs.
4. Organize cup tasting and quality contests in Nepal.

Figure 22: *The coffee bean-growing belt*



Source: www.coffeeforless.com/articles/coffee-articles/coffee-bean-growing-belt.html.

Develop a traceability system between actors to monitor quality and MRLs

Traceability is an important concept in current international trade of foodstuffs. There is both a legal and non-legal aspect to traceability: food ingredients like coffee should be traceable for food safety purposes.

> Traceability is the ability to track any food, feed, food-producing animal or substance that will be used for consumption through all stages of production, processing and distribution. In the event of a food incident it enables the identification and subsequent withdrawal or recall of unsafe food from the market. If the food has not reached the consumer, a trade withdrawal is undertaken. If the food has reached the consumer, a product recall is undertaken which includes notification of the consumer through in-store notices and press releases.

Another reason is that traceability allows food companies to monitor quality, MRLs and food safety along their supply chain and take rapid, focused corrective measures when required. To be applicable in the coffee sector, the batch would have to be registered from local production to district traders and exporters to ensure traceability. This can be achieved by preharvest distribution of bags labelled with the GPS number of each farmer.

The capacities of laboratories in Nepal have been strengthened over the last few years and accreditation has been obtained. MoAD now has to build and defend the reputation of its testing laboratories and the Government needs to ensure that the mutual standards recognition already stipulated in the bilateral agreements with its main trading partners is applied.

1. Develop a training of trainer programme on pesticide and chemical management for inputs suppliers to guarantee pesticide-free or safe-level MRL status for coffee production.
2. Develop a monitoring system with outreach offices and field inspectors within cooperatives.
3. Improve testing facilities for MRLs in Nepal.
4. Establish internationally accredited laboratories in Nepal for chemical testing.
5. Improve DFTQC chemical laboratories' and other private laboratories' international accreditation for MRLs.

VALUE CREATION

Reinforce the Nepal Coffee collective trademark in domestic and international markets with the Nepal Coffee logo: branding brings competitive advantages and market opportunities

NTCDB is responsible for the management and monitoring of the collective trademark 'Nepal Coffee' and provides it to exporters with the recommendation of the Nepal Coffee Entrepreneurs' Association.[74] The use of the Nepal Coffee trademark is supposedly provisional on compliance with a Code of Conduct (CoC). By December 2016, only few companies had acquired the collective trademark. Recently, initiatives have been taken to register the trademark in the main countries importing Nepali coffee.

The CoC is defined in a six-page document 'The Procedure Guidelines for the Use of National Logo of Nepal Coffee' mostly focusing on the logo, the quality and packaging requirements (including A. Coffee Production and Processing, B. Standards and Standard Quality of Coffee and C. Coffee Packing and finally the licence fee). There are very limited specific quality requirements and no description of the monitoring system.

As the sector has to make a clear commitment to quality improvement, the CoC must reflect this new orientation and make a clear distinction between the coffee quality grades: low quality, export quality and speciality coffee quality. This must be supported by a certification system issued by independent organizations that are responsible for verifying and surveying the practices of coffee cultivation and the processes of drying, storing and transporting coffee. In order to be part of the certification programme, coffee growers, processors and roasters must comply with a number of requirements that should include, for example, volume of dry parchment coffee produced, receipts of purchase, etc.

In reality, the monitoring mechanism – based on a team to inspect the proper use of the collective trademark – is not functional. The team is supposed to keep a strict watch to make sure the logo is not used on products that do not meet the standards and that do not originate in Nepal. Additionally, the funding mechanism to support the sector branding initiative has been mostly supported by development agencies and MoC. The current fee structure and number of companies raises questions about the sustainability of the trademark programme in the long term.

74. Kathmandu Post (2015). Brand registration expected to boost Nepal coffee exports. Retrieved from http://kathmandupost.ekantipur.com/news/2015-02-20/brand-registration-expected-to-boost-nepal-coffee-exports.html.



Photo: ITC, *Packaging machine*

The development of the Nepal Coffee trademark must take into account the production system and the quality management throughout the value chain as well as the marketing strategy to support it. A collective or sector brand helps to build reputation and attract new customers or retain existing ones. The value proposition of the brand has to be unique and defined according to market potential. The reputation can only be achieved with a reliable and consistent product supported by a clear and transparent certification process. The following actions are required to reinforce the Nepal Coffee trademark and to properly clarify the objectives of this logo.

1. Sector stakeholders, under the leadership of NTCDB and sector associations, need first to set a common objective which will determine the value added of the branding programme compared to the overall certification cost. The development of the certification process must include the following aspects.

   a. Objective: Sector stakeholders, in the framework of the sector strategy initiative, have clearly stated that improving Nepali coffee quality was the primary objective for developing a collective brand. As explained previously, quality management must be implemented throughout production but also needs to be transposed in terms of promotion to build the reputation of Nepali coffee in the world market.

   b. Quality compliance requirements: The actual standard for the Nepal Coffee trademark has to be reassessed and improved according to the high quality requirements of international buyers, especially for speciality coffee. A consensus much be reached across all sector stakeholders in defining voluntary quality requirements. This would normally entail a specific grading system based on simple criteria such as:

      - Number of defects (number of imperfections such black spots, broken beans, discoloured beans, etc.)
      - Cup quality
      - Screen size (bean size)
      - Density of the beans.

   It would also include a CoC for the sector related to various sustainable development issues such as socioeconomic development, sustainability, gender and youth inclusiveness, among others.

   c. Administration process: A compliance committee has to be created to oversee the formalization of the quality requirements, implementation, rules and regulations, and dispute settlements.

   d. Branding strategy: Investing in such a branding initiative is only valuable for the sector if it helps to improve quality standards to penetrate premium markets. The final objective is for the sector to sustain the current value of Nepali coffee by creating a clear value proposition for the buyer and the final consumer. The strategy will be based on various activities, including the development of a promotional website for Nepal Coffee; development of promotional grants to participate in trade fairs and international conferences in partnership with TEPC; and building linkages between medium and small processing units and specialized e-marketplaces.

   e. Sustainable funding mechanism: NTCDB budget will have to be dedicated to support the beginning of the implementation as seed money. As already defined in the CoC, exporters have to pay licensing fees to be allowed to use the official logo on their packaging and promotion material, and also a subscriber fee to be part of the national brand programme and participate in the activities previously described.

Figure 24: *Grading and classifications for a few coffee producing countries, and Illustration of a defect count for sun-dried (natural) coffee*

1/64 inch	mm	Classification	Central America and Mexico	Colombia	Africa and India
20	8	Very Large	Superior	Supremo	A4
19.5	7.75				
19	7.5				
18.5	7.25	Large			
18	7				A
17	6.75				
16	6.5	Medium	Segundas	Excelso	B
15	6				
14	5.5	Small	Terceras		C
13	5.25	Shells	Caracol		PB
12	5				
11	4.5		Caracolli		
10	4				
9	3.5		Caracolillo		
8	3				

1 black bean	1
2 sour or rancid beans	1
2 beans in parchment	1
1 cherry	1
1 large husk	1
2–3 small husks	1
3 shells	1
1 large stone/earth clod	5
1 medium-sized stone/earth clod	2
1 small stone/earth clod	1
1 large stick	5
1 medium-sized stick	2
1 small stick	1
5 broken beans	1
5 green or immature beans	1
5 insect damaged beans	1

Box 11: Is there a standard form for cup tasting, i.e. to record coffee quality?

There is no internationally recognized standard form as such, basically because different producing countries, different markets and different users do not have the same requirements and do not use the same terminology. In its 1991 publication entitled *Sensory Evaluation of Coffee*, the International Coffee Organization (www.ico.org) referred to 'the bewildering variety of quality control methods and terminologies' companies and producing countries use. The book (ISBN-0-905461-09-6) tracks the development of interesting flavour profiles and terminology but the effort did not result in a universal cupping or tasting standard.

Many producers, exporters, importers and roasters use standard forms to record their tasting results. However, they have mostly designed these forms themselves and they therefore reflect their particular requirements. Research institutes also use standard forms, usually much more elaborate, as do cupping competitions and others for whom continuity in detail and methodology is very important. In general terms one is of course able to compare findings that are recorded in different formats and use different terminology but never in detail and keeping in mind that 'taste' and 'value' mean different things to different people.

A number of organizations have published standard cupping forms, partly because they are used by competition juries for whom standardization is an absolute must (see www.cupofexcellence.org), or because of attempts to create some kind of standardized quality assessment for the speciality industry. SCAA has what is known as the 'Q' cup testing form (see www.scaa.org) while SCAE (www.scae.com) recommends its members use the Cup of Excellence format. However, both are more appropriate for speciality coffee. They contain considerable detail and may not suit the average buyer of mainstream or wholesale coffee. Such buyers are more interested in knowing whether a particular coffee can economically be used in their product range or blend, not whether it is the best within a competing group.

A mainstream cupping form will usually contain brief details of a coffee's green appearance, including the bean size and the type and number of defects found; the appearance of the roasted beans and, of course, the cup or taste.

Source: ITC Online Coffee Guide – http://www.thecoffeeguide.org/QA-088/.

The branding programme is a long-term investment which will require sufficient funding and engagement of all sector stakeholders.

2. In the meantime, an export promotion programme will focus its assistance on cooperatives and traders willing to comply with the new quality requirements. The objective will be to reinforce their capacities to promote their products. It is essential that exporters are able to provide information on how the specific Nepali coffee was cultivated, plucked, processed and graded, and what the social conditions are at both farm level and community level. This can be done at least on the website of the Nepali exporter but also in brochures, info sheets or reports. Pictures and videos are essential. Furthermore, 'normal' export marketing should be at a minimum level. There should be an export manager who speaks English and communication should be adequate. Some buyers, for instance, expect an answer to their e-mail the same day, or at least the next day. Usual but vital marketing tools include:

- A website with regular and updated information;
- Regular and prompt communication and follow-up on enquiries and offers;
- Brochures: not expensive ones but simple, with good information on the company and the coffee if offers;
- Printed sample bags or stickers. Budget for courier shipments of samples;
- Market newsletters, updates;
- Budget for phone calls/travel.

A specific trade fair programme will be put in place to participate in major speciality coffee trade fairs and organize buyer–seller events. TEPC should be in charge of the coordination and management of the programme given its mandate and experienced staff.

Box 12: Success story of coffee in Rwanda

Until very recently, nearly all Rwandan coffee was low-grade arabica intended for the commodity market. Under the Belgian colonial government, farmers were required to plant coffee trees for high-volume, low-quality production. As the sole purchaser of these small producers' coffee, the Belgian colonial government dictated the buying price, paying the farmers a pittance while the government prospered. After the global market price for coffee crashed in the 1980s and in the economic and social devastation following the genocide in 1994, the struggling industry collapsed completely. In recent years, Rwanda has been touted as a striking example of how speciality-grade coffee can be used as a cash crop to raise the income and improve the quality of life of farmers.

Agriculture is the primary source of livelihood for 90% of Rwanda's population, the majority of those surviving through subsistence farming. In a country with a population of about a million, an estimated 400,000 of whom are small-scale coffee farmers, the potential impact of the speciality coffee market was enormous and obvious.

Today things look very different from the commodity market past, in part because of an initiative funded by the United States Agency for International Development called Sustaining Partnerships to Enhance Rural Enterprise and Agribusiness Development.

Rwanda has always had the potential to produce great coffee – fertile land, high altitude, good annual rainfall levels and a majority of coffee plants that bear the highly sought-after and delicious Bourbon varietal of arabica coffee. The problem has historically been in the processing – the step that converts coffee cherries to the final green bean product purchased by roasters.

Communal washing stations have tapped Rwandan coffee's potential and have been a crucial ingredient to the success of Rwanda's efforts to tap into the speciality coffee market. These washing stations are a means of processing coffee cherries, separating immature or defective beans, and washing the stripped coffee so it does not over-ferment, thus ruining the taste. This has allowed an unprecedented level of quality to be achieved. The benefits of farmers producing higher-quality coffee and thus being paid a higher price for their coffee are many and varied. Aside from the direct economic benefits to the community – improved access to health care and education, improved food security, creation of new infrastructure – there are also important social benefits to the lives of individuals and to the health of communities in Rwanda. Reconciliation and collaboration is at an all-time high within communities haunted by past horrors of the genocide. As the people work together they are drawn together in a spirit of community and cooperation; the divisions between them become blurred.



Photo: Roasting machine

Increase the production of coffee compliant with private organic and sustainability standards

One way to stand out from the competition is certification but it is important to realize that 40% of all worldwide green coffee carries some form of certification. Certification alone is not enough to be competitive; it is additional and underlines the quality of the coffee. Given the interesting market opportunities for 'private standard' compliant coffee (described in the section 'developing market opportunities'), the coffee sector has already started to product organic coffee. To grow the organic production further, requirements include various activities directly in line with the monitoring of MRL compliance and going deeper in setting new production practices.

The coffee sector must build stronger government support to develop solid partnerships with consuming countries and set up a collaborative platform between small farmers, processing units, NTCDB, cooperatives, the private standard organizations (4C, RA, UTZ, etc.) and the buyers (coffee packers, distributors). The certification programme needs to be planned in different phases, starting with a pilot in a specific area followed by an upscaling programme to reach a large number of smallholders through training on sustainable production, and then embedding sustainability standards within the national requirements and organizational structures. When it comes to organic certification, specific producing areas of coffee will not be able to reach the requirements without a gradual shift in production practices. In that case, the first step will be to start with the development of integrated pest management trainings for farmers and processing units. In the medium term, specific areas or even districts should be declared organic production areas. This will require the full support of local authorities and appropriate legislation.

1. Support development of integrated pest management and organic coffee cultivation.
2. Develop trainings on organic and fair trade standards and certification.
3. Set up a certification extension network and support the certification of farmers and processing units on private standards such as RA, Fairtrade and organic in collaboration with the tea sector.
4. Declare specific organic production areas.

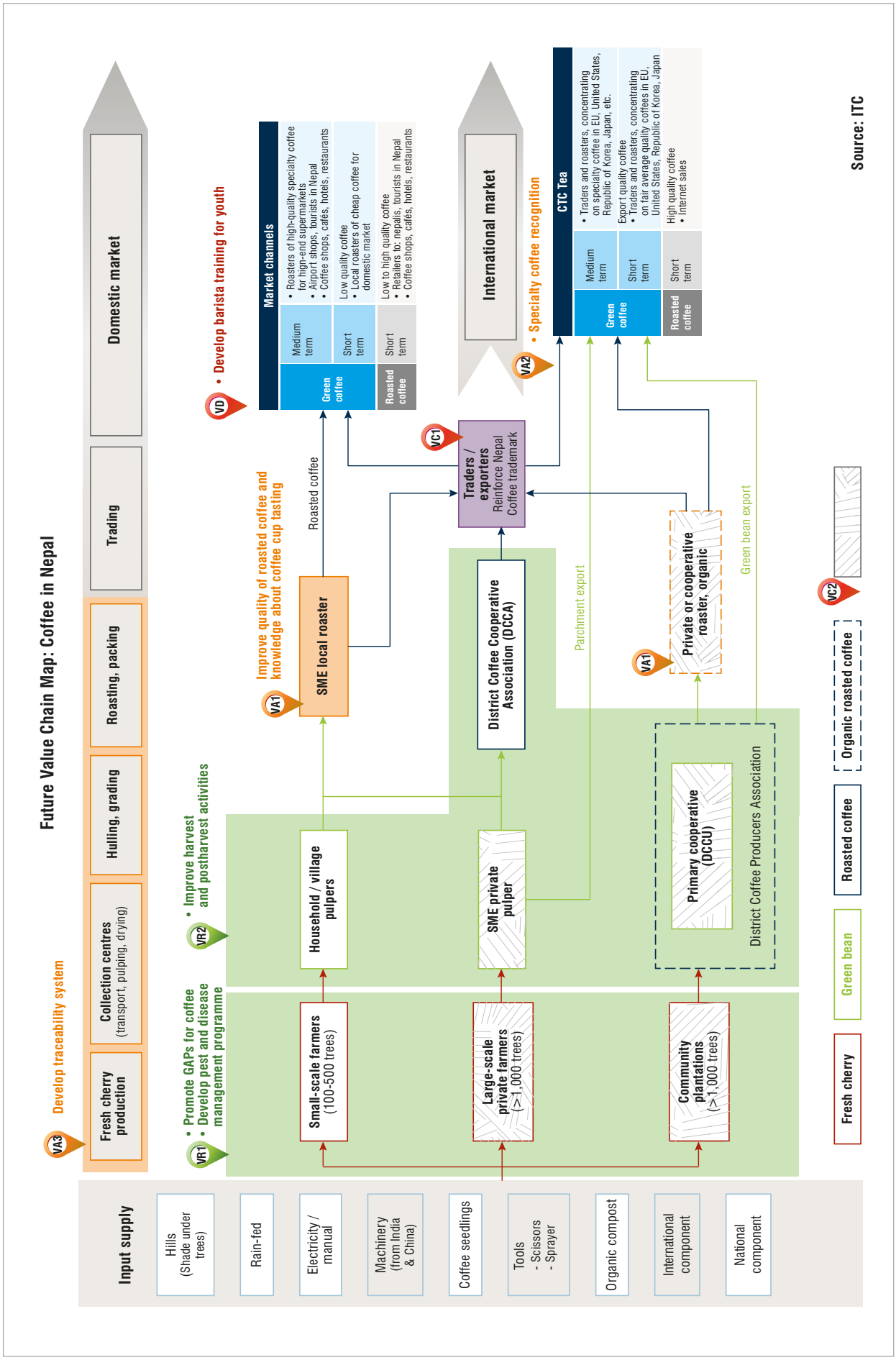
VALUE DISTRIBUTION

Value distribution is discussed in detail in the next chapter under 'Potential offered by the sector for women and youth'.

FUTURE VALUE CHAIN

Developing Nepali coffee quality and sustainability will require transformations throughout the value chain. These structural improvements explained in the previous section are reflected in the future value chain schematic (see figure 25) and presented in colour. Major adjustments are also indicated with the following icon.

Figure 25: *Future value chain diagram*



WAYS TOWARDS GREATER SUSTAINABILITY AND SOCIAL INCLUSIVENESS

ENVIRONMENTAL OPPORTUNITIES

The EU and United States each have their own recognized organic certification: the EU Organic Farming and the United States Department of Agriculture National Organic Programme (USDA NOP). As can be seen in figure 26, their level of requirements and degree of obligation in terms of implementation are quite similar. In fact, in 2012, the EU and the United States announced that their respective countries' certified organic products can be represented as such across the Atlantic, meaning that the United States recognizes the USDA NOP as equivalent to the EU Organic Programme provided that it complies with a few additional conditions and vice versa.[75]

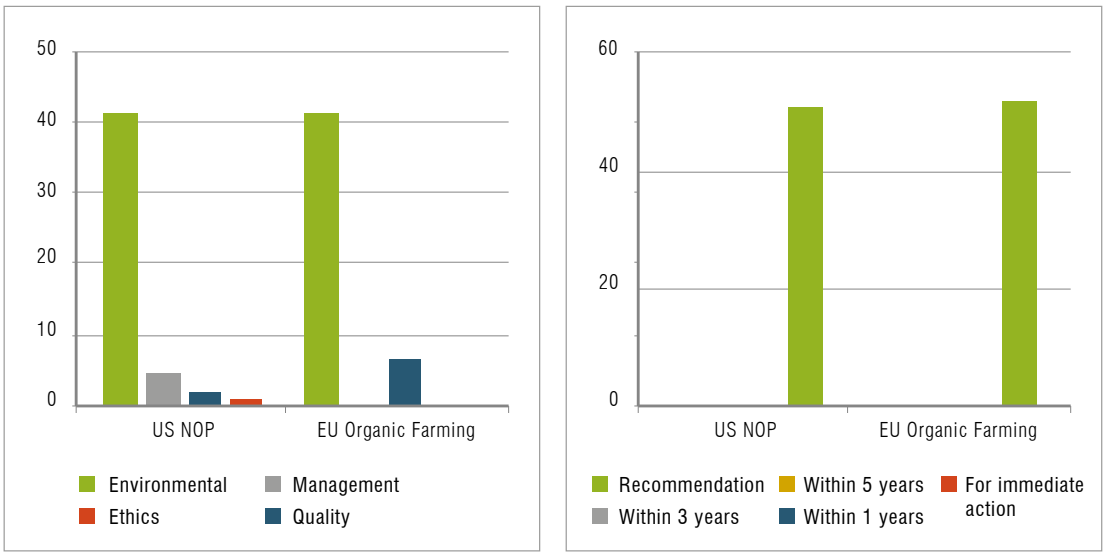
As explained in the global trends section and value options of this Strategy, increased global awareness about rural poverty, climate change and sustainability have spurred the creation of projects to improve agricultural practices in developing countries with a specific focus on coffee. Among these are the Soil Association Organic Standard (SAOS), Sustainable Agriculture Network (SAN)/ RA (SAN System), the World Fair Trade Organization (WFTO) Guarantee System and UTZ.

RA is an alternative approach to conventional trade. It is based on a partnership between producers and consumers. The label covers a wide variety of products including coffee. The main goal of RA regarding coffee is to offer producers a better deal and improved terms of trade, and consumers a way to reduce poverty through their everyday shopping. The additional RA Premium funds allow farmers to take charge of their own collective development. As with UTZ, WFTO or SAOS, RA organizes a broad range of training programmes for producers covering areas such as establishment of farmers' organizations and quality control.

Looking at figure 26, it can be seen that majority of the requirements for SAOS, SAN/RA and UTZ are mostly in the environmental and social sustainability area. Most environmental requirements are about biodiversity, chemicals or natural organic inputs, water, waste and animals. WFTO is more concerned about social sustainability, with similarity to the other three certifications in that it prioritizes employment and employment relationships, followed by conditions of work, social protections, human rights and local communities. Among the four standards, the strictest is UTZ certification. This certification has around 116 requirements for immediate action while the most lenient certification would be SAOS, for which the requirements need to be completed within three years. WFTO is spread out; around 39 of the requirements are for immediate action while 34 are to be completed within five years.

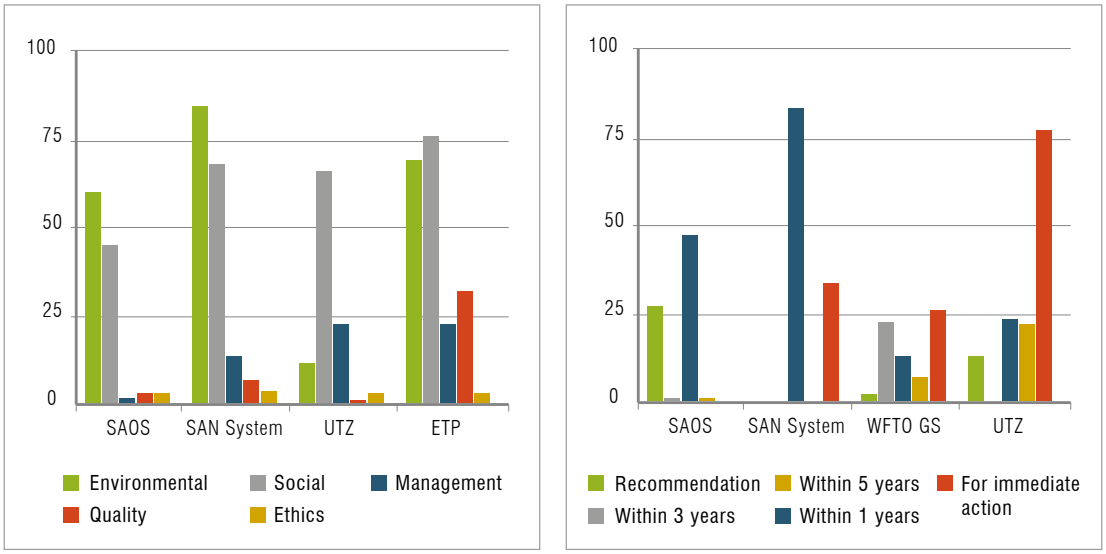
75. United States Mission to the European Union (2015). US- EU Organic Equivalency Arrangement. Retrieved from: http://www.usda-eu.org/trade-with-the-eu/trade-agreements/us-eu-organic-arrangement/

Figure 26: *Comparison of USDA NOP and EU Organic Farming certification areas and degree of obligation (number of requirements)*



Source: ITC Standards Map.

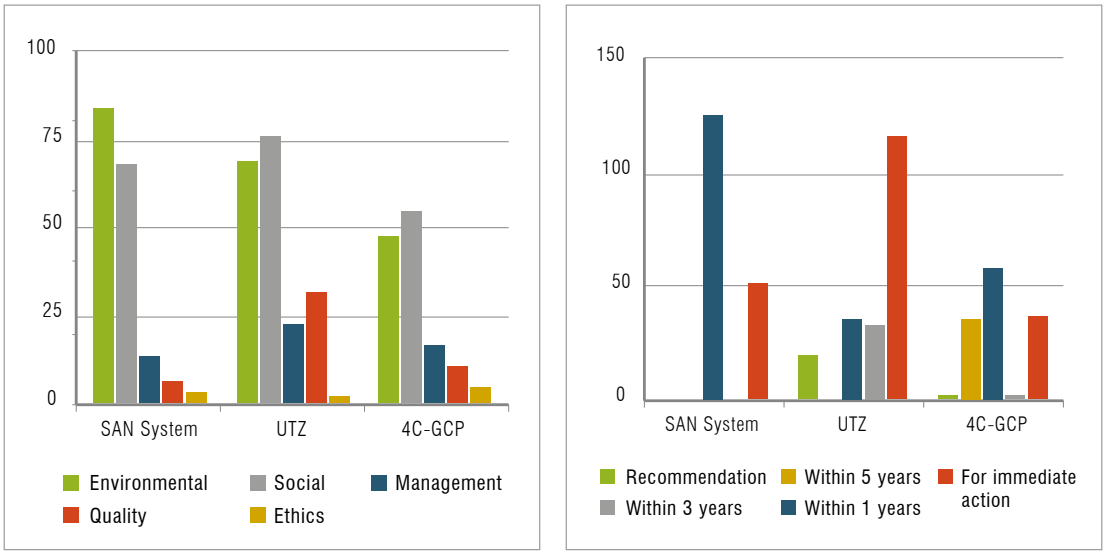
Figure 27: *Comparison of SAOS, SAN System, WFTO Guarantee System and UTZ certification areas and degree of obligation (number of requirements)*



The attempt to combine environmental, social and economic aspects in one system of standards,[76] led to the emergence of RA and UTZ Certified, as well as 4C (more a 'verification' than a certification). Comparing these three standards, it can be seen that SAN and 4C are both lenient compared with UTZ, which has a much stricter degree of obligation in completing the requirements. All three certifications prioritize environmental and social sustainability.

76. Panhuysen, S. and Pierrot, J. (2015). Coffee Barometer 2014. *Hivos*. Retrieved from https://hivos.org/sites/default/files/coffee_barometer_2014.pdf

Figure 28: *Comparison of SAN System, UTZ and 4C GCP certification areas and degree of obligation (number of requirements)*



Source: ITC Standards Map.

POTENTIAL OFFERED BY THE SECTOR FOR WOMEN AND YOUTH

The sector offers potential to empower women in both rural and urban areas in Nepal. However, to achieve positive returns a number of orientations need to be considered as priorities. These areas will provide women with immediate opportunities and are those with the lowest involvement of cultural perceptions.

EMPLOYMENT OPPORTUNITIES FOR WOMEN IN SUBSECTORS

In Nepal's agricultural sector, around 90% of the farmers are women and most are smallholders.[77] They usually work in low-paid and repetitive labour-intensive tasks. Self-help groups, sustainable financial programmes and skills trainings and management can give women in this industry a good foundation to expand, improve, move up the value chain and be competitive in the market. CoPP was started in 2003 to improve the livelihoods of deprived members of the community, of which women form one group. The programme works with local partners to institutionalize value chain processes and strengthen coffee cooperatives. It tries to build leadership and start initiatives such as internship programmes.



Photo: ITC, *Owner of Machhapuchhre Organic Coffee shop*

77. FAO (2010). Integration of Gender in Agriculture GAP: An Analysis of Situation. Nepal, p.5.; and SOFA Team and Doss C (2011). The Role of Women in Agriculture. *ESA Working Paper No. 11-02,* p. 2. Retrieved from http://www.fao.org/docrep/013/am307e/am307e00.pdf.

POTENTIAL OFFERED BY THE SECTOR FOR YOUNG PEOPLE

The Nepali youth (age 15–35) population's labour-force participation rate is roughly 84% in rural areas and 62% in urban areas.[78] Given that youth unemployment is high compared with other age groups (13.4%)[79] and that youth has been migrating to foreign labour markets, promoting decent and productive employment opportunities for youth has become a national priority. The coffee sector has the potential to boost economic opportunities for youth due to being labour-intensive at both the farm and factory levels. Young people need to have access to training and job opportunities need to be created to curb the problem of brain drain from Nepal. One programme in Nepal created by the Youth Thinkers' Society, the barista training programme, trains youth in coffee processes, cultivation, machine knowledge, etc. Enhancing the capacity of young farmers by introducing good practices can increase their productivity and therefore their earnings. This can play a significant role in reducing rural-to-urban migration.

Employment opportunities in coffee for youth: The coffee sector has been identified as a promising sector for employment growth in Nepal and can potentially represent employment opportunities for the new entrants the country's labour force receives each year. Moreover, marketing and brand promotion linked to coffee exports – and often associated with young people's innovation capacities – also offer potential for wealth and job creation, provided that adequate policies are in place.

To achieve the vision and strategic objectives that have been discussed above, a robust, actionable and realistic strategic PoA is required. This is provided in the section below, and effectively constitutes the heart of this strategy.

78. Ministry of Health and Population (2012). National Survey on Adolescents and Youths; DFID, Pereznieto, P. (2016). Rapid Review of Programmes for Women and Girl's Economic Empowerment. *EPS-PEAKS*, p.2.

79. International Labour Organization (2014). Regional commissioners' youth employment forum in Tanzania. Retrieved from http://www.ilo.org/addisababa/countries-covered/tanzania/WCMS_321400/lang--en/index.htm.

STRUCTURE OF THE PLAN OF ACTION

The PoA of the Strategy is articulated around four strategic objectives. Each strategic objective is composed of operational objectives to answer specific constraints affecting the sector. Below is the structure followed by the PoA.





Photo: ITC, *Roasting machine in Machhapuchhre Organic Coffee shop*

NEPAL
NATIONAL SECTOR EXPORT STRATEGY
COFFEE

THE PLAN OF ACTION



Strategic objective 1: Increase production of quality coffee cherries.											
Operational objective	Activities	Priority 1=high 2=med 3=low	Starting period					Beneficiaries	Target measures	Leading national institution	Supporting implementing partners	Existing programmes or potential support
			2017	2018	2019	2020	2021					
Operational objective 1.1	Expand coffee production areas defined in a national production plan.											
1.1.1 Conduct a feasibility study in existing production districts and potential new districts to identify new coffee growing areas and the most suitable varieties.		1						Farmers	New coffee clusters and farming areas totalling 1,500 ha identified	DADOs	CRC/NARC NTCDB, NCPA / CCCUL / DCCU	CoPP TPSD
1.1.2 Create an awareness-raising campaign for farmers in new areas on coffee production and market opportunities. » Sensitize young smallholders and entrepreneurs to coffee production and business opportunities.		1						Farmers	Training on coffee farming delivered to 800 farmers in new areas/ clusters	NTCDB	DADOs NCPA / CCCUL / DCCU	CoPP TPSD
1.1.3 Formulate long-term and annual production plans to increase coffee planting and production in new areas.		1						Farmers	Annual production plan established	NTCDB	MoAD, DADOs, DCCU, NCPA	
Operational objective 1.2	Develop public and private nurseries in collaboration with research centres.											
1.2.1 Establish new and strengthen existing nurseries in coffee growing districts through technical supervision to produce high quality coffee saplings. » Create satellite coffee nurseries managed by DADO extension officers and under the technical supervision of the future upgraded CRC at Baletaksar.		1						Farmers	At least 200,000 saplings produced by nurseries in each district Yearly nursery training conducted at community level	NTCDB	Department of Agriculture, DADOs CRC, NARC NCPA / CCCUL / DCCU	CoPP TPSD
1.2.2 Establish a registration, inspection and certification programme for nurseries.		1						Farmers	One inspector in each DCCU deployed and all nurseries registered with DADO	NTCDB	MoAD, DADOs / NCPA / CCCUL / DCCU	CoPP TPSD
Operational objective 1.3	Develop a national programme for pest and disease management.											
1.3.1 Launch extensive training and awareness-raising programmes among farmers on better techniques for quality farming, disease minimization and control, productivity growth and farm management, as well as postharvest handling and processing. » Develop a campaign to disseminate knowledge on pest and disease management. » Adhere strictly to quarantine regulatory practices on imports of coffee seedlings from foreign countries.		1						Farmers	Seventeen districts	Plant Protection Directorate, CRC	NTCDB Plant Protection Directorate / CCCUL, DDCU	CoPP TPSD
Operational objective 1.4	1.4 Increase the productivity of existing farms by promoting GAPs.											
1.4.1 Develop master training capacities and support materials aimed at disseminating best practices in the field and in orchard management to all stakeholders. » Develop guidelines, handouts and radio / television programmes on best practices about GAPs, including weeding and thinning, proper manuring and covering, shade regulation and irrigation. » Develop an information, education and communication system and disseminate training materials to farmers.		1						Farmers and cooperatives	Twice a year for 32 trainees	NTCDB	NCPA / CCCUL / DCCU	CoPP TPSD
1.4.2 Improve production management knowledge and practices for soil testing, moisture management and modern irrigation methods. » Train farmers on soil moisture management and soil testing systems. » Develop small modern irrigation facilities. » Develop improved parchment moisture management and control technology.		2						Farmers and cooperatives	Selected districts	Department of Agriculture / soil testing lab / CRC NARC	NTCDB, NCPA / CCCUL / DCCU	CoPP TPSD
1.4.3 Develop model farming to train new farmers and cooperatives. » Pilot clusters of 5–7 smallholders in new production areas to provide active follow-ups in coffee production techniques.		1						Farmers and cooperatives	One model farm for each producing district	NTCDB	NCPA / CCCUL / DCCU	TSPD
1.4.4 Develop and conduct coffee varietal testing research programmes (in line with 3.4).		2						Farmers and cooperatives	Continuing	CRC NARC	NTCDB, NCPA / CCCUL / DCCU	

Strategic objective 2: Develop support capacities of cooperatives to improve green bean quality and develop organic certification.											
Operational objective	Activities	Priority 1=high 2=med 3=low	Starting period					Beneficiaries	Target measures	Leading national institution	Supporting implementing partners	Existing programmes or potential support
			2017	2018	2019	2020	2021					
Operational objective 2.1	Promote adoption of best practices for postharvest management.											
2.1.1 Improve wet processing practices and grading.		1						Cooperatives, coffee groups	All dry parchment uses wet processing	NTCDB	NCPA / CCCUL / DCCU	TPSD CoPP
2.1.1.1 Establish model pulping centres in selected districts. Train farmers to clean and grade coffee beans at the cooperative level.		1						Cooperatives, coffee groups	One model pulping centre established in 10 districts	NTCDB	NCPA / CCCUL / DCCU	CoPP
2.1.1.2 Provide processing equipment (de-pulpers, de-mucilage. washing stations, etc.) and build infrastructure for coffee cooperatives, unions and processors.		2						Cooperatives, coffee groups	Half of all PCCs receive required equipment and infrastructure support	NTCDB	NCPA / CCCUL / DCCU	CoPP
2.1.2 Improve sorting and grading technologies and practices.		1						Cooperatives, coffee groups	Most DCCUs (80%) receive required support	NTCDB	NCPA / CCCUL / DCCU	CoPP
2.1.2.1.Establish modern parchment processing units and storage facilities for cleaning and grading.		1						Cooperatives, coffee groups	Most DCCUs (80%) receive required support	NTCDB	NCPA / CCCUL / DCCU	CoPP
2.1.3 Improve the transportation system from farm to market.		2						Cooperatives, coffee groups	Half of all PCCs receive support	NTCDB	NCPA / CCCUL / DCCU	CoPP
2.1.4 Introduce modern designs for packing and packaging systems as needed for coffee.		3						Cooperatives, coffee groups	Half of all PCCs receive support and equipment	NTCDB	NCPA / CCCUL / DCCU	CoPP
Operational objective 2.2	Improve Nepali arabica coffee quality and develop a traceability system.											
2.2.1 Disseminate the grading system developed by NTCDB to farmers through primary cooperatives and private companies.		1						Farmers, cooperatives, companies, coffee groups	All PCCs and DCCUs receive support	NTCDB	NCPA / CCCUL / DCCU	CoPP
2.2.2 Improve the pricing distinction between categories at the farm level and cooperatives.		1						Farmers, cooperatives, coffee groups	Pricing mechanism improved	NTCDB	NCPA / CCCUL / DCCU	
2.2.3 Develop a traceability scheme with outreach offices and field inspectors within cooperatives.		2						Farmers, cooperatives, coffee groups	Equipment provided for three pilots	NTCDB	NCPA / CCCUL / DCCU	
2.2.3.1 Pilot the traceability system with selected cooperatives to monitor quality and MRLs. » A batch has to be registered from local production to cooperatives and exporters to ensure traceability. This can be achieved by preharvest distribution of bags labelled with the GPS number of each farmer or cooperative.		2						Farmers, cooperatives, coffee groups	Three pilot projects established	NTCDB	NCPA / CCCUL / DCCU	
Operational objective 2.3	Promote organic certification and establish a certification process.											
2.3.1 Identify coffee farming areas where the organic certification system will be established. » Establish zoning for future development of organic production.		2						Farmers, cooperatives, coffee groups	Around 3–4 coffee farming areas in each district identified for organic certification	CRC / NARC	NTCDB	
2.3.2 Provide technical and financial support for the organic certification process. » Set up a certification extension network and support to certify farmers and processing units on private standards such as RA, Fairtade and organic in collaboration with the tea sector. » Support development of integrated pest management and organic coffee cultivation.		2						Farmers, cooperatives, coffee groups	Five districts receive subsidies for the organic certification system	MoAD	NTCDB	
2.3.3. Promote a training programme on organic production. » Organize sensitization workshops on certification management, compliance and implementation.		2						Farmers, cooperatives, coffee groups	Increase by 20% each year the number of certified organic producers and primary cooperatives per district	CRC	CCCUL/DCCU / Nepal Coffee Entrepreneurs' Association	

Strategic objective 3: Strengthen national sector development coordination.												
Operational objective	Activities	Priority 1=high 2=med 3=low	Starting period					Beneficiaries	Target measures	Leading national institution	Supporting implementing partners	Existing programmes or potential support
			2017	2018	2019	2020	2021					
Operational objective 3.1	Review the national Coffee Policy to reinforce institutional support.											
3.1.1 Revise the Coffee Policy to support commercialization and make it export-oriented. » Conduct periodic policy and regulatory reviews. » Revise and develop (if necessary) a coffee policy and submit it to the Government for approval. » Get endorsement and inform stakeholders about policy changes. » (Revised Coffee Policy under discussion – by the Government » of Nepal – 2017).		1						Coffee sector	New coffee policy published in the Government gazette	MoAD	MoC NTCDB NCPA DCCU TEPC	
3.1.2 Develop an e-commerce policy for the coffee sector.		3						Coffee sector	E-commerce policy developed and implemented	MoAD MoC	NTCDB NCPA / CCCUL TEPC	
3.1.3 Introduce regulatory measures (acts, regulations and directives) to increase access to new land to grow more coffee through commercial plantations and clusters. » Regulations include a lease act, a contract farming act and provisions for procurement of land for coffee. Regulations will also define the size of commercial farms and the corresponding supply of seedlings (a commercial farm should have 300 to 500 producing plants).		1						Coffee sector	Policy dialogue initiated to promote coffee planting in leasehold forest	MoAD MoC	NTCDB NCPA / CCCUL TEPC	
3.1.4 Introduce and develop effective implementation of tariff and non-tariff measures on imports of coffee green beans to reduce the high risk of infiltration into Nepali coffee exports.		2						Coffee sector	Training of customer officers carried out	MoC	Ministry of Finance, Department of Commerce, NTCDB	
Operational objective 3.2	Strengthen public–private sector development coordination.											
3.2.1 Strengthen the Coffee Subsector Development Working Group to coordinate development activities and monitor sector development. » Develop a reporting system to monitor progress for planned activities under the sector export strategy and set up a sector core team and sector forum to oversee implementation management. » Carry out regular monitoring of coffee production and processing activities to ensure larger production quantity and better quality.		1						Coffee sector	Coffee Subsector Working Group Held meeting every two months NTCDB quarterly visits to districts	NTCDB	MoAD NCPA / CCCUL DCCU TEPC	
3.2.2 Strengthen and operationalize the Coffee Division within NTCDB. » Define the new mandate of the Coffee Division. » Establish an annual budget with specific provisions to support the branding programme and new sector CoC (in line with 4.1.2). » Recruit permanent staff and agrotechnicians.		1						Coffee sector	Separate Coffee Division made functional within NTCDB	NTCDB		
3.2.3 Establish Government provision for financial support for coffee value chain development including production, processing and marketing.		1						Coffee sector	One basket fund established	MoAD MoC	NTCDB	
3.2.3.1 Establish partnerships with financial institutions to develop financial schemes to upgrade processing capacities.		2						Coffee sector	Three to four financial institutions linked through a memorandum of understanding	MoAD MoC	Nepal Rastra Bank NTCDB NCPA	
3.2.3.2 Introduce insurance systems in coffee production and trade.		3						Coffee sector	Insurance system piloted with foreign buyers and local banks	MoAD	NTCDB NCPA	

Strategic objective 3: Strengthen national sector development coordination.											
Operational objective	Activities	Priority 1=high 2=med 3=low	Starting period					Beneficiaries	Target measures	Leading national institution	Supporting implementing partners	Existing programmes or potential support
			2017	2018	2019	2020	2021					
Operational objective 3.3	Reinforce management capacities and knowledge of cooperatives and small and medium-sized enterprises.											
3.3.1 Provide support on cooperative education and management to district and primary cooperatives on business and certification management. » Provide training on business management; coffee production; general organizational structure (internal control system); procedures for coffee certifications management and compliance; and implementation of district and primary cooperatives. » Encourage women to participate in sector cooperative management roles by providing mentorship.		1						Coffee sector cooperatives	All members receive at least one cooperative education training All executive committees receive at least one management training (every year)	NTCDB	DADOs	
3.3.2 Reinforce exporters' knowledge of international coffee trading practices. » Develop a curriculum for coffee exporters by creating a partnership with a business school.		2						Coffee sector cooperatives and exporters	One module on coffee trading created	NTCDB	Business schools	
3.3.3 Carry out training programmes on coffee roasting and cup tasting. » Reinforce barista educational programmes to improve coffee shop services in tourist areas.		1						Coffee sector cooperatives and coffee shops	Partnerships with international trainers	NTCDB	NCPA, business schools	
Operational objective 3.4	Strengthen the capacities of CRC and testing laboratories.											
3.4.1 Conduct a needs assessment on technical assistance requirements to reinforce the capacities of CRC, focusing on research and human capital as well as equipment needs.		1						Coffee sector and CRC	One assessment study done	CRC	NARC	
3.4.2 Build partnerships with foreign institutes and increase the research capacities of CRC. » Develop a resource mobilization and recruitment plan for qualified coffee researchers. » Develop partnerships with international coffee research institutes and development programmes (World Coffee Research, Coffee Quality Institute, International Fund for Agricultural Development) to hire foreign agronomists and build exchange study programmes to train Nepali coffee agronomists.		2						Coffee sector and CRC	Two qualified coffee researchers recruited	CRC	NARC	
3.4.3 Support accreditation of laboratories on required important parameters for MRL testing in coffee.		1						Coffee sector and CRC	Partnership between DFQTC and CRC established	DFTQC	CRC, NARC	

Strategic objective 4: Develop Himalayan speciality coffee recognition in domestic and foreign markets.											
Operational objective	Activities	Priority 1=high 2=med 3=low	Starting period					Beneficiaries	Target measures	Leading national institution	Supporting implementing partners	Existing programmes or potential support
			2017	2018	2019	2020	2021					
Operational objective 4.1	Reinforce the Nepali Speciality Coffee trademark in domestic and international markets with the Nepal Coffee logo.											
4.1.1 Implement national coffee quality standards and speciality coffee recognition in line with buyers' requirements and international best practices. » Review standards for the Nepal Coffee logo so they are in line / compliant with international standards.		1						Coffee sector	National standards for Nepali coffee developed and standards for logo use revised	NTCDB	Nepal Bureau of Standards and Metrology DFTQC, NCPA, TEPC	
4.1.2 Redefine the trademark and branding strategy supported by a sector CoC and sustainable funding mechanism. » Set common objectives on quality management to determine the value added of the trademark and branding programme. » Reassess quality compliance requirements in line with revised quality standards. » Establish a compliance committee to administer the process. » Establish a licensing fee for the use of the official logo.		1						Cooperatives and exporters	Operational guidelines in use for 80% of Nepali coffee sold with the logo	NTCDB	NCPA TEPC	
4.1.3 Study the possibility of introducing geographic indication for Nepali coffee.		1						Sector	Assessment conducted	MoC	MoAD NTCDB	
Operational objective 4.2	Facilitate linkages between cooperatives and private-standard certification agencies.											
4.2.1 Raise awareness in the sector about marketing systems and market opportunities for organic and fair trade certification. » Organize exposure trips and training of trainer programmes.		1						Cooperatives, producers and exporters	Training of trainers established and six exposure trips undertaken	NTCDB	NCPA Nepal Coffee Entrepreneurs' Association	CoPP
4.2.2 Facilitate linkages between the private sector, cooperatives and private-standard certification agencies.		2						Cooperatives, producers and exporters	Four districts obtain Fairtrade certificates	NTCDB	NCPA Nepal Coffee Entrepreneurs' Association	CoPP
4.2.3 Establish linkages between international buyers, Nepali producers and relevant government authorities for coffee export promotion.		1						Cooperatives, producers and exporters	Linked with four certification agencies at national and international levels	NTCDB	NCPA Nepal Coffee Entrepreneurs' Association	CoPP
Operational objective 4.3	Promote Nepali speciality coffee in target markets.											
4.3.1 Achieve speciality coffee status in international markets. NTCDB needs to develop partnerships with foreign coffee experts to develop Q coffee grading done at the estate or cooperatives level. » Identify farms and/or districts with speciality quality coffee. » Organize testing and obtain quality certification in partnership with SCAA / SCAE.		1						Selected cooperatives and private estates	Speciality coffee certification obtained for three cooperatives or estates	NTCDB	TEPC NCPA	TPSD
4.3.2 Organize a market promotion campaign through domestic and speciality coffee conferences and trade fairs. » Establish a trade fair programme to participate in major speciality coffee trade fairs (SCAA and SCAE expos, TriestEspresso, COTECA, and Tea & Coffee World Cup).		1						Cooperatives, producers and exporters	Three trade fair visits each year	TEPC	NTCDB NCPA	TPSD
4.3.3 Organize cup tasting and quality contests in Nepal. » Train selected Nepali coffee experts on liquoring techniques and provide official recognition in partnership with SCAA / SCAE. » Organize national cup tasting and quality contests.		2						Cooperatives, producers and exporters	Yearly national competition and 12 cup tastings held in Kathmandu and in all DCCUs	NTCDB	NCPA	

IMPLEMENTATION MANAGEMENT

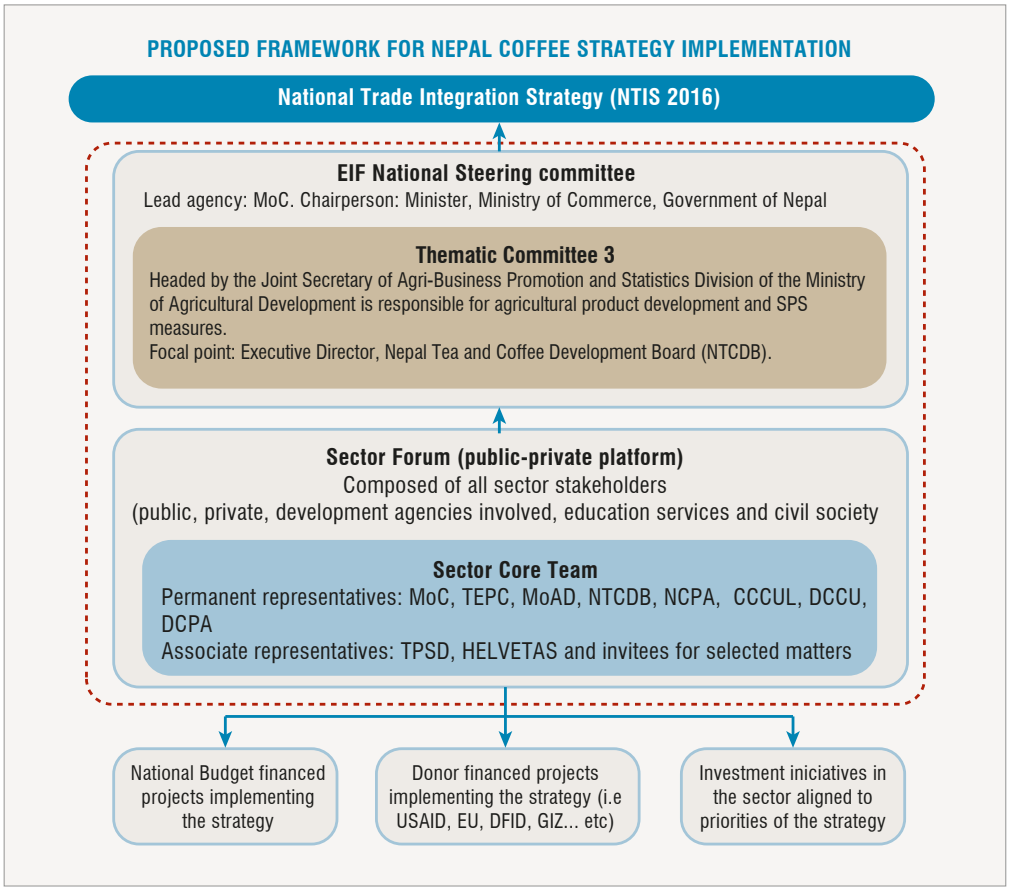
The comprehensive Coffee Sector Export Strategy of Nepal endeavours to generate the conditions for a favourable expansion of the sector so as to contribute to overall socioeconomic development. Nevertheless, a strategy in and of itself is not enough to ensure the sector's sustainable development. Such development will require the elaboration and coordination of various activities. While the execution of these activities will allow for the Strategy's targets to be achieved, success will depend on the ability of stakeholders to plan and coordinate actions in a tactical manner. Activities must be synchronized across the public sector, private sector and NGO communities in order to create sustainable results.

Indeed, the Coffee Export Strategy is not the strategy of any specific institution; rather it is the strategy of Nepal, and to ensure its success it is necessary to foster a conducive environment and create an appropriate framework for its implementation. The following section presents some of the key conditions considered necessary for the Strategy to be effectively implemented and successfully achieve self-sustainability and long-lasting benefits for Nepal.

REINFORCE THE COFFEE SUBSECTOR DEVELOPMENT WORKING GROUP AND OPERATIONALIZE A PUBLIC AND PRIVATE COORDINATING BODY, SECTOR FORUM AND ITS SUBSIDIARY ORGAN, SECTOR CORE TEAM

A key criterion for the success of the Coffee Sector Export Strategy is the sector's ability to coordinate activities, monitor progress and mobilize resources for the implementation of the export strategy. It is recommended that Nepal reinforces the role of the Coffee Subsector Development Working Group for public–private deliberations to act in an advisory capacity to the Government and the private sector over issues related to or affecting the sector and its export strategy.

Figure 29: *Proposed structure for strategy implementation*



Sector forum and sector core team

The formal dialogue platform will require high-level involvement by trade support network members (public and private), as their role is crucial and will impact the effectiveness with which the Strategy is implemented. Likewise, the ability of the private sector to provide inputs to the Strategy implementation process will significantly influence its success.

The stakeholders group consulted during the Strategy design process comprised a panel of representatives of key institutions, including ministries and trade support network members as well as representatives of the private sector. As such, once its mandate is appropriately adjusted, this group of stakeholders –together with additional human resources as required– is best positioned to serve as the public–private platform, the sector forum, responsible for the coordination of Strategy implementation. It will also be required that a nominated sector core team coordinates, monitors and mobilizes resources for implementing the Strategy.

The creation of the sector forum and sector core team are in line with NTIS 2016. The Joint Secretary of Commerce is the Focal Point for the coffee sector.

The main functions of the public–private platform, or sector forum, should be the following:

i. Act as a consultative group pertaining to the coffee sector, enabling the private sector and government representatives to identify priority issues;
ii. Coordinate and monitor the implementation of the Strategy by the Government, private sector, institutions or international organizations so as to ensure Strategy implementation is on track;
iii. Identify and recommend allocation of resources necessary for the implementation of the Strategy;
iv. Elaborate and recommend revisions and enhancements to the Strategy so that it continues to best respond to the needs and long-term interests of the sector;
v. Propose key policy changes to be undertaken based on Strategy priorities and promote these policy changes among national decision makers.

As discussed above, the public–private platform should be supported by a sector core team to complete the operational work related to implementation management of the Strategy. The core responsibilities of the sector core team should be to:

a. Support and organize regular meetings of the sector forum (public–private platform);
b. Monitor the progress and impact of Strategy implementation;
c. Coordinate Strategy implementation partners;
d. Mobilize resources to implement the Strategy in line with NTIS 2016.

Specific tasks falling under these broad areas of activities include:

- Formulate project proposals, including budgets, for implementation of activities of the Strategy;
- Develop annual and twice-yearly workplans for approval by the sector forum (public–private platform);
- Collect information from project implementation and prepare regular monitoring reports to be submitted to the sector forum, the EIF National Steering Committee, the NTIS National Implementation Unit and Donor Facilitator;
- Advocate in favour of the Strategy to public and private partners, and development partners;
- Execute any other tasks required by the sector forum.

NTIS 2016 Implementation mechanism

The implementation mechanism of NTIS 2016 has six Thematic Committees working under the EIF National Steering Committee chaired by Honorable Minister of Commerce. Thematic Committee 3 headed by the Joint Secretary of Agri-Business Promotion and Statistics Division of the Ministry of Agricultural Development is responsible for agricultural product development and SPS measures. For coffee, the focal point for its development is the Director, Vegetable Development Directorate of Department of Agriculture who will work in coordination with Programme Director, National Spices Crops Development Programme.

BUILD CAPACITIES REQUIRED FOR MANAGING THE IMPLEMENTATION

Even with institutional structures in place, Nepal and its Strategy implementation framework will not be able to effectively fulfil their assigned functions without suitable capacity development interventions.

The ability and skills of the technical committee and sector core team need to be sufficient to ensure effective management of Strategy implementation. Hence, the sector core team and its partners should have knowledge of the ideas, challenges and best practices behind the Strategy when monitoring implementation progress, assessing overall impact, mobilizing additional resources, programming and communicating results. Without such skills they will not be in a strong position to assume their respective oversight and management responsibilities for Strategy implementation.

PRIVATE SECTOR SUPPORT AND PARTICIPATION

The private sector should benefit from Strategy implementation through improved productive capacities, reduced costs of doing business, facilitated administrative procedures, enhanced access to finance, etc. However, the private sector clearly expressed during the Strategy design process its willingness to contribute, directly or in partnership with public institutions, to the implementation of the Strategy. Their implementation efforts can range from providing business intelligence to institutions to contributing to development projects, establishing processing and transformation units, advocacy, etc. In brief, the private sector's practical knowledge of business operations is essential to ensuring that the activities of the Strategy are effectively implemented and targeted.

SENSITIZATION OF IMPLEMENTING INSTITUTIONS TO BUILD OWNERSHIP

The key implementing institutions detailed in the PoA need to be informed of the content of the Strategy and the implications for their 2017–2021 programming. This sensitization is essential to building further ownership and it provides institutions with the opportunity to review the PoA in order to confirm the activities they can implement immediately, in both the medium and the long term. This programming approach will permit better resource allocation within the responsible agencies. This allocation can be formalized by integrating the activity of the Strategy into the programme planning of the institution. While the financial dimension is required, the human resource element is no less important.

FINANCIAL RESOURCE MOBILIZATION FOR IMPLEMENTATION

While resource mobilization is only part of the solution, it plays a crucial and indispensable role in supporting Strategy implementation. An integrated resource mobilization plan should be elaborated as soon as the Strategy is adopted. Resource mobilization involves planning the sequencing of communications with donors, project design, project proposals/applications, and resource collection and management. This should facilitate, leverage and strengthen the impact of diverse sources of finance to support sustainable and inclusive implementation, including national resources, development aid and private investment.

- National resources through direct budget and support programme: The Government will need to validate defined minimum budget support towards the implementation of the Strategy. Such support for the Strategy's activities will demonstrate the Government's commitment to the initiatives.



Photo: ITC

- Alignment of donors' support and interventions with the Strategy: The sector forum and the authorities will need to capitalize on the significant momentum gained as part of the Strategy design process and leverage it for smooth and efficient implementation. International development agencies can use the Strategy as the logical framework for their programmes as they will surely benefit from its favourable conditions for operation (i.e. political endorsement, private sector buy-in and improved collaboration with national institutions). The PoA of the Strategy should serve the sector forum as well as national institutions to improve communication and facilitate the negotiation, planning, coordination and evaluation of commitments made in the context of development aid, in particular through the development of programmes and project proposals aligned with the priorities of the Strategy.

- National and foreign investment: The current Strategy design core team is composed of representatives of national institutions, the trade support network and the private sector. If the sector forum is created and becomes the coordinating body of the Strategy, the Strategy should benefit from a solid channel of communication capable of conveying reliable information to companies about export-related opportunities in the industry, and in turn capable of communicating to the Government the needs that investors have identified in order to operate successfully. Investment in Nepal could serve as a valuable driver of export development. Even so, it must be targeted at specific prospects in order to benefit the industry's development as detailed in 'the way forward' section of this Strategy.

APPENDIX: LIST OF PARTICIPANTS IN THE PUBLIC/ PRIVATE CONSULTATIONS

	Name of institution	Name
1	District Agriculture Development Office, Chief	Mr. Ramesh Pd. Koirala
2	Ministry of Commerce, Under Secretary	Ms. Mina Aryal
3	Central Coffee Producers' Association, President	Mr. Shyam Adhikari
4	District Coffee Producers Cooperative Association, President	Mr. Bishwo Bandhu Pokharel
5	Trade and Export Promotion Centre, Navigator	Mr. Bimal Nepal
6	Machhapuchhre Coffee	Mr. Shankar Adhikari
7	Pokhara Organic Coffee Trader	Mr. Arjun Lamsal
8	Coffee Farmer	Mr. Yam Nath Sapkota
9	Subedi Transport Service	Mr. Shree Ram Subedi
10	Palpa Coffee Industry	Mr. Krishna Thapa
11	Lekhanath Chamber of Commerce	Mr. Daya Ram Tiwari
12	DCPA Kaski	Mr. Indra Gauchan
13	Sandikhola Coffee Cooperative	Mr. Ananda Subedi
14	Farmer	Mr. Kulchandra Adhikari
15	District Coffee Producers' Association	Mr. Bindachandra Baral
16	Machhapuchhare Uttam Cooperative	Mr. Hari Prasad Bhugain
17	District Coffee Producers Association, Kashki	Mr. Taramani Ghimire
18	Knor Coffee Cooperative	Ms. Kamala Lammechhani
19	National Tea and Coffee Development Board, Technician, Pokhara	Mr. Prem Nidhi Dhakal
20	International Trade Centre	Mr. Olivier Marty
21	International Trade Centre	Mr. Josef Marie Pierrot,
22	International Trade Centre	Mr. Murari Prasad Gautam
23	Trade and Export Promotion Centre	Mr. Rajendra Man Singha

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